MVC-FD91

SERVICE MANUAL

Self Diagnosis
Supported model

Ver 1.0 1998.10

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Hong Kong Model
Tourist Model
Chinese Model

Digital
Mavica

SPECIFICATIONS

System

Image device	1/3-inch CCD
Lens	14x f = 5.2 – 72.8 mm (37 – 518 mm, when converted to the equivalent of a 35 mm still camera) F1.8 – 3.2
Exposure control	Automatic exposure
White balance	Automatic, Outdoor, Indoor, One-push white balance
Data compression	Movie : MPEG-1 Standard format Still : JPEG Audio with still image : MPEG audio (mono)
Memory	Floppy disk: 3.5 inch 2HD MS-DOS format (1.44 MB)
Flash	Recording distance limitations: 1 5/8 – 8 1/3ft. (0.5 – 2.5 m)

LCD screen

Screen size	2.5 inch
LCD panel	TFT
Total dot number	84260 dots

General

Application	Sony battery pack NP-F330/F530/F550
Power requirements	7.2 V (battery pack)
Power consumption (During shooting)	3.9 W (When using the LCD panel) 3.6 W (When using the viewfinder)
Operation temperature	32°F to +104°F (0°C to +40°C)
Storage temperature	–4°F to 140°F (–20°C to 60°C)
Dimensions	Approx. 5 5/8 × 4 1/8 × 6 1/2 in. (139.8 × 103 × 162 mm) (w/h/d)
Mass	Approx. 2 lb. 1 oz. (950 g) (including battery pack NP-F330, lithium battery CR2025, floppy disk, shoulder strap and lens cap)
Microphone	Electret condenser microphone
Speaker	Dynamic Speaker
Supplied accessories	See page 1-1.

Design and specifications are subject to change without notice.

DIGITAL STILL CAMERA

MICROFILM

SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

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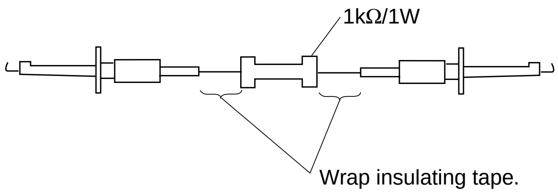
* The color reproduction frame is shown on page 185.

[Discharging of the FLASH unit's charging capacitor]

The charging capacitor of the FLASH unit is charged up to the maximum 300 V potential.
There is a danger of electric shock by this high voltage when the battery is handled by hand. The electric shock is caused by the charged voltage which is kept without discharging when the main power of the MVC-FD91 is simply turned off. Therefore, the remaining voltage must be discharged as described below.

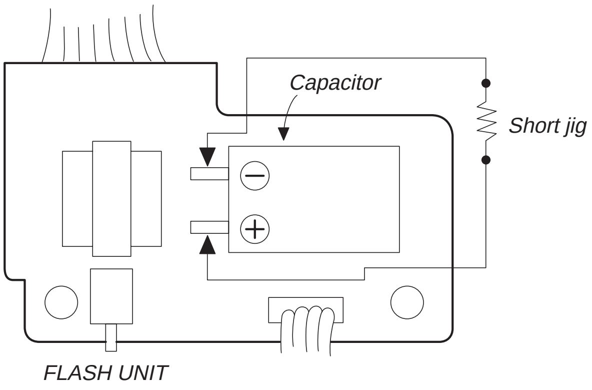
Preparing the Short Jig

To preparing the short jig. a small clip is attached to each end of a resistor of 1kΩ /1W (1-215-869-11)
Wrap insulating tape fully around the leads of the resistor to prevent electrical shock.



Discharging the Capacitor

Short circuits between the positive and the negative terminals of charged capacitor with the short jig about 10 seconds.



[How to connect the extension cable]

1. Connection between the FDD unit and PK-45 board.

1) Connection of the extension cable (J-6082-427-A)

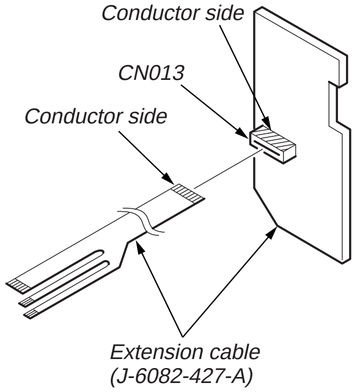


Fig.1

2) Connection between the PK-45 board and extension cable

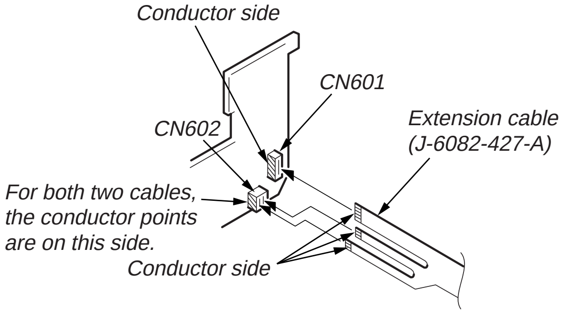


Fig.2

3) Connection between the FDD unit and extension cable

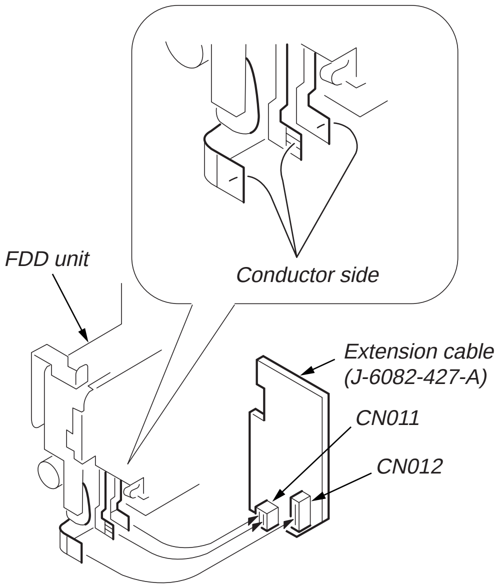


Fig.3

Note : The floppy disk drive and PK-45 board could be destroyed unless the flexible board is connected normally to the connector. (See Fig. 4.)

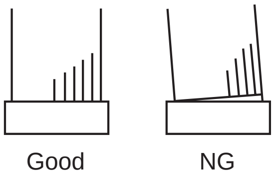


Fig.4

2. Connection between the DD-119 board and FC-67 board

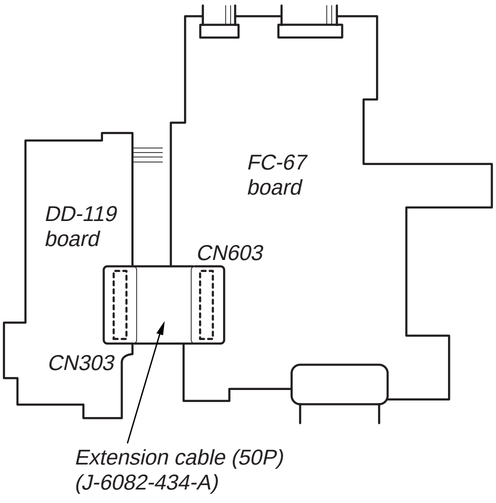
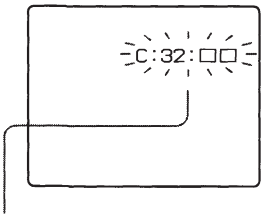


Fig.5

[Description on Self-diagnosis Display]

Self-diagnosis display

The camera has a self-diagnosis display. This function displays the camera condition with five-digits (a combination of a letter and figures) on the LCD screen. If this occurs check the following code chart. The five-digit display informs you of the camera current condition. The last two digits (indicated by □□) will differ depending on the state of the camera.



Self-diagnosis display

- C: □□: □□
  The contents which can be handled by customer, are displayed.
- E: □□: □□
  The contents which can be handled by engineer, are displayed.

Note : The “Self-diagnosis” data is backed up by the coin lithium battery.The data will be lost and initialized when the coin lithium battery is removed.

Display Code	Countermeasure	Cause	Caution Display During Error
C:32:01	Change the disk and turn off the main power then back on.	Defective floppy disk.	DRIVE ERROR
C:13:01	Replace the floppy disk. Format the floppy disk with the MVC-FD91.	• The type of floppy disk that cannot be used by this machine, is inserted. (Such as 2DD) • Data is damaged. • Unformatted disk is inserted.	DISK ERROR
E:91:01	Checking of flash unit or replacement of flash unit	Abnormality when flash is being charged.	Flash LED Flash display Flashing at 3.2 Hz
E:61:00	Checking of lens drive circuit	When failed in the focus initialization.	—
E:61:10			

SECTION 1
GENERAL

This section is extracted from instruction manual.

Be sure to read before using your camera

Trial recording

Before you record one-time events, you may want to make a trial recording to make sure that the camera is working correctly.

No compensation for contents of the recording

Contents of the recording cannot be compensated for if recording or playback cannot be made due to a malfunction of the camera, floppy disk, etc.

Precaution on copyright

Floppy disks, television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provisions of the copyright laws.

- IBM PC/AT is a registered trademark of International Business Machines Corporation of the U.S.A.
- MS-DOS and Windows are registered trademarks licensed to Microsoft Corporation, registered in the U.S.A. and other countries.
- Netscape Navigator is a trademark of Netscape Communications Corporation.
- Macintosh is a trademark licensed to Apple Computer, Inc., registered in the U.S.A. and other countries.
- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies. Furthermore, "TM" and "®" are not mentioned in each case in this manual.

Before using your camera

This digital still camera uses a floppy disk as a medium for recording images.
Use the following floppy disk type:
- Size: 3.5 inch
- Type: 2HD
- Capacity: 1.44 MB
- Format: MS-DOS format (512 bytes × 18 sectors)

When using 3.5 inch, 2HD floppy disk other than described above, format it using the camera or personal computer.

Do not shake or strike the unit

Malfunctions, inability to record images as well as inability to use floppy disks or image and memory data breakdown, damage or loss may occur.

Do not get the unit wet

When taking pictures outdoors in the rain or under similar conditions, be careful not to get the unit wet.
If moisture condensation occurs, refer to page 41 and follow instructions on how to remove it before using.

Do not point the viewfinder toward the sun

Do not place the unit so as to point the viewfinder or the LCD screen toward the sun. The inside of the viewfinder or the LCD screen may be damaged. Be careful when placing the unit under sunlight or by a window.

Back up recommendations

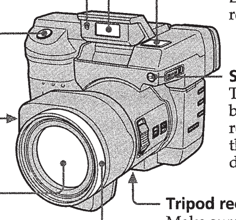
To avoid the potential risk of data loss always copy (back up) data to disk.

Supplied accessories

Digital still camera (1)
Power cord (1 set)
Shoulder strap (1)
Battery charger (1)
NP-F330 battery pack (1)
Lens cap (1)

Parts identification

See pages in ( ) for more details.



Photocell window for flash
Do not block when recording.

Shutter button (17, 18)

Slot for AC power adaptor cord

Lens

Focus ring (36)

Flash emitter (11)

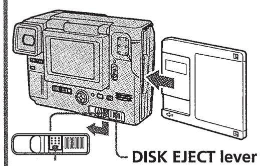
Microphone
Do not touch when recording.

Self-timer lamp
The lamp keeps on blinking until recording starts after the shutter button is depressed.

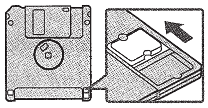
Tripod receptacle
Make sure that the length of the tripod screw is less than 7/32 inch (6.5 mm).

To insert the floppy disk

Insert the floppy disk until it clicks.



Before inserting, check that the write protect tab set to the recording position.



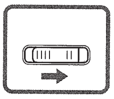
EJECT lock

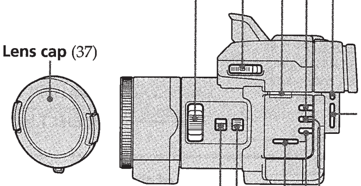
DISK EJECT lever

To remove the floppy disk
While sliding EJECT lock down, slide DISK EJECT in the direction of the arrow.

Zoom lever
"T" side: for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)
Move the zoom lever to the "W" side until the focus is sharp.
You can shoot a subject that is at least about 2 2/3 feet (about 80 cm) away from the lens surface in the telephoto position, or about 1/2 inch (about 1 cm) away in the from the lens surface in the wide-angle.

OPEN (FLASH) switch
To pop up the flash and use it, slide this switch in the direction of the arrow.





Lens cap (37)

FOCUS AUTO/ MANUAL switch (36, 47)

STEADYSHOT ON/OFF switch (36, 48)

PROGRAM AE –/+ button (38, 49)

Hook for strap

WHITE BALANCE button (37, 48)

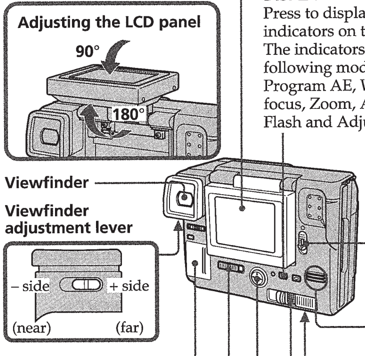
BRIGHT +/– button
Press to adjust the brightness of the LCD screen.

VOLUME +/– button
Press to adjust the volume of the speaker.

(One-push white balance) button (37, 48)

PROGRAM AE button (38, 49)

⇨ **Parts identification**



LCD panel

Viewfinder

Viewfinder adjustment lever

Lithium battery compartment (39)

PLAY/STILL/MOVIE switch (17, 18, 21)

Control button

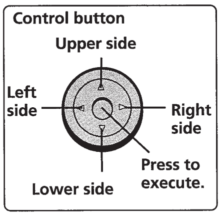
DISPLAY button
Press to display or turn off the indicators on the LCD screen.
The indicators do not go off in the following modes:
Program AE, White balance, Manual focus, Zoom, AE Lock, Self-timer, Flash and Adjusting the exposure.

POWER switch
Slide down to turn on/off the power.

Speaker

Battery cover/ OPEN (BATT) button (13)

DISK EJECT lever (8)



Function of the control button
You can execute the functions by pressing the upper, lower, left or right side of the control button. When an item is selected in the menu, the color of the item changes from blue to yellow. To enter your selection, press the center of the control button.

POWER lamp (17, 21)

ACCESS lamp (17, 21)

LCD screen

FINDER/LCD switch
Slide to change the viewfinder or LCD screen.

SPOT METER button (47)
Press to change the Complete photometry or Spot light-metering mode.

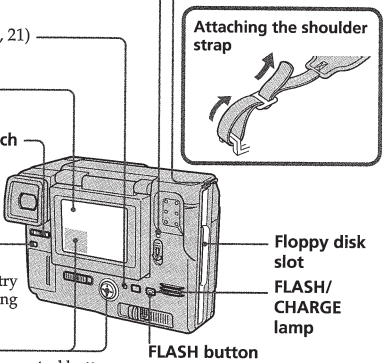
Self-timer
Select "[self-timer icon]" with the control button, then press it.
About 10 seconds after you press the shutter button, the subject is recorded.

Exposure
Select "+EV" or "–EV" on the LCD screen with the control button, then press it to select the desired value.

+EV: To raise the exposure value (brighten the picture)
–EV: To lower the exposure value (darken the picture)

Adjustable in a range of –1.5 EV to +1.5 EV in steps of 0.5 EV.

Hook for strap



Floppy disk slot

FLASH/ CHARGE lamp

FLASH button
Auto-flash is set at the factory. Each time you press the button, the flash mode changes as follows:
Auto-flash (no indication) → Forced-flash [flash icon] → No flash [no-flash icon] → Auto-flash
In Auto-flash mode, the flash radiates automatically according to the brightness of the surroundings. The subject must be 1 5/8 feet to 8 1/3 feet (0.5 m to 2.5 m) away. The flash will work at 1/60 to 1/1500 shutter speed. When you record using the flash and conversion lens (not supplied), an eclipse (shadow) may occur. To use the flash or change the flash mode, slide OPEN (FLASH) to lift the flash up. (9)

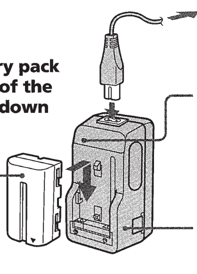
Preparation

1 Charging the battery pack

To charge the battery pack, use the battery charger. For details, refer to the instruction manual of the battery charger.

❶ Connect the power cord to a wall outlet.

❷ Insert the battery pack in the direction of the ▼ mark. Slide it down until it clicks.



CHARGE lamp (orange)
The CHARGE lamp (orange) lights up. Charging begins.

Battery charger

To remove the battery pack

Slide up the battery pack.

Charging time

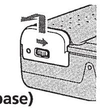
Battery	Full charge*	Normal charge**
NP-F330	210 min.	150 min.
NP-F530	225 min.	165 min.
NP-F550	240 min.	180 min.

Approximate minutes to charge a discharged battery pack using the battery charger BC-V615. (Lower temperatures require a longer charging time.)

* Charging for about one hour after the CHARGE lamp goes out.
** Charging just until the CHARGE lamp goes out.

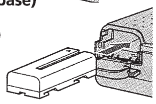
2 Installing the battery pack

❶



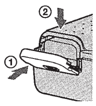
Open the battery cover.
While sliding OPEN (BATT) in the direction of the arrow.

❷



Install the battery pack.
Insert the battery pack with the ▼ mark facing toward the battery compartment.

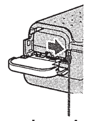
❸



Close the cover.
Press the cover until it clicks.

To remove the battery pack

Open the battery cover. While sliding the battery release lever rightward, remove the battery pack.
Be careful not to drop the battery pack when removing.



Battery release lever

Remaining battery time indication

This camera shows on the LCD panel how many minutes you can still keep on recording or playing back images*. Note, however, that the time might not be displayed correctly under some use conditions or in some environments.
* The time displayed during recording or during playback refers to the time for which the battery lasts if you simply keep the camera on or if you simply keep it displaying images without performing any operation.

Auto power-off function

During recording if you leave the camera inactive for about 3 minutes while the power is on, the camera turns off automatically to prevent wearing down the battery.

Basic operations

About the power source

This camera can be powered from the following two power sources:
- InfoLITHIUM battery* NP-F330 (supplied)/F530 (not supplied)/ F550 (not supplied)
- AC power adapter AC-V700 (not supplied)

When you use the camera for a long time, we recommend you to power the camera from a wall outlet with the AC power adaptor.

*** "InfoLITHIUM" battery pack**

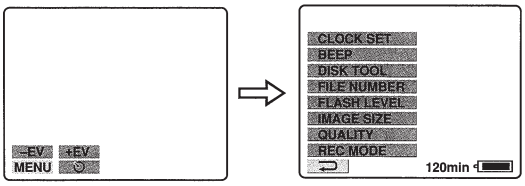
The "InfoLITHIUM" is a lithium ion battery pack which can exchange data with compatible equipment about its battery consumption.
"InfoLITHIUM" is a trademark of Sony Corporation.

3 Setting the date and time

When you use the camera first, set the date and time.
The date and time are necessary for MS-DOS format recording. If they are not set, incorrect date and time are recorded, and CLOCK SET screen in step ❸ appears whenever you turn on the camera in STILL/MOVIE mode.

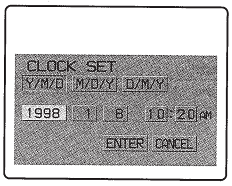
❶ Slide POWER down to turn on the power.

❷ Select "CLOCK SET" in MENU with the control button, then press it.



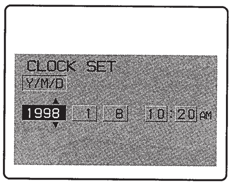
❸ Select the desired display of the date with the control button, then press it.

Y/M/D (year/month/day)
M/D/Y (month/day/year)
D/M/Y (day/month/year)

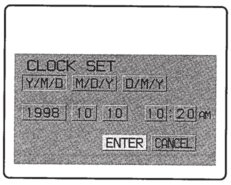


❹ Select the date and time with the control button, then press it.

The item to be changed is indicated with ▲/▼. Select number by pressing the upper side or lower side of the control button, then press it to enter the number.
After entering the number, ▲/▼ moves to the next item.
When "D/M/Y" is selected, set the time on a 24-hour cycle.



❺ Select "ENTER" with the control button, then press it at the desired moment to begin clock movement.



Basic operations

To cancel setting the date and time

Select "CANCEL" with the control button, then press it.

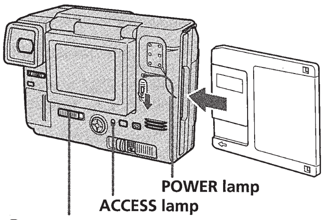
Note

If the "⚡" indicator appears on the LCD screen, replace the lithium battery according to the procedures on page 39.

Recording and playing back images

1 Recording still images

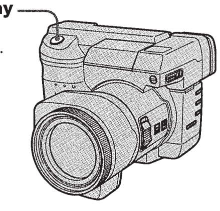
To record the images, slide POWER down to turn on the power (The POWER lamp lights up) and insert the floppy disk until it clicks.



❶ Set PLAY/STILL/MOVIE to STILL.

❷ Press the shutter button halfway down.

The AE lock indicator ● (green) flashes. When AE (auto exposure), AWB (auto white balance) and AF (auto focus) are frozen, the AE lock indicator stops flashing.



❸ Press the shutter button fully down.

The image is recorded on the disk.

The number of images you can record on a floppy disk

About 10 – 16 images with all default settings. (p. 29)

Note

When the image is recorded on the disk, the ACCESS lamp flashes.
When the ACCESS lamp is flashing, never shake or strike the unit. Also, do not turn the power off or remove the battery pack or floppy disk. Otherwise, an image data breakdown may occur and the floppy disk may become unusable.

Basic operations

2 Recording moving images

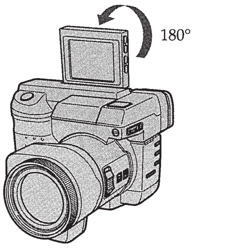
❶ **Set PLAY/STILL/MOVIE to MOVIE.**

❷ **Press the shutter button fully down momentarily.**
The image and sound are recorded for 5 seconds.
Hold the shutter button fully down.
The image and sound are recorded until you release it.
Maximum 60 seconds when recording 160 × 112 size ⊏160
15 seconds when recording 320 × 240 size ⊏320

Moving images will be softer than still images.

Recording with LCD panel up – Mirror mode

If you turn the LCD panel over so that it faces the other way, you can record yourself while watching yourself on the LCD screen.

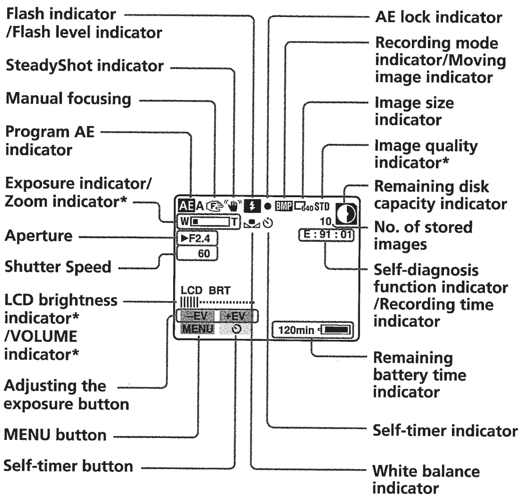


When recording in mirror mode, the picture on the LCD screen rotates right or left as if in a mirror, but the recorded image will be the same as the actual subject.

Note
The characters on the LCD screen also rotate right or left.

The indicators during recording

The indicators on the LCD screen are not recorded.



* Only displayed during operation.

Basic operations

Functions you can use for image recording

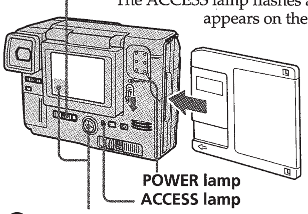
Adjusting the brightness of the LCD screen (p. 9)
Zoom (p. 9)
Flash (p. 11)*
Self-timer (p. 11)
Adjusting the exposure (p. 11)
Spot light-metering (p. 47)
Focusing manually (p. 36, 47)
Releasing the SteadyShot function (p. 36, 48)
Adjusting the white balance (p. 37, 48)
PROGRAM AE function (p. 38, 49, 50)
Selecting the recording mode – REC MODE (p. 28)*
Selecting the image quality – QUALITY (p. 30)*
Selecting the flash level – FLASH LEVEL (p. 30)*
Selecting the file numbering mode – FILE NUMBER (p. 31)
Selecting the image size – IMAGE SIZE (p. 30, 31)

* You cannot use these functions for MOVIE mode.

3 Playing back still images

To watch the recorded images on the LCD screen, slide POWER down to turn on the power (The POWER lamp lights up) and insert the floppy disk until clicks.

❶ **Set PLAY/STILL/MOVIE to PLAY.**
The ACCESS lamp flashes and the last recorded image appears on the LCD screen.



❷ **Select the recorded image with the control button.**
Select the button on the LCD screen with the control button, then press it.

[◀◀] : To display the preceding recorded image.
[▶▶] : To display the next image.
[INDEX] : To display 6 recorded images at a time (Index screen).

4 Playing back moving images

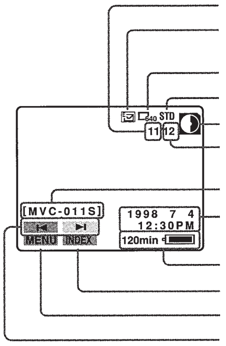
❶ **Set PLAY/STILL/MOVIE to PLAY.**
The ACCESS lamp flashes and the last recorded image appears on the LCD screen.
The image recorded in MOVIE mode is displayed one-size smaller than the other normal-sized images.

❷ **Select the playback start button on the LCD screen with the control button, then press it.**
The moving image and sound start.

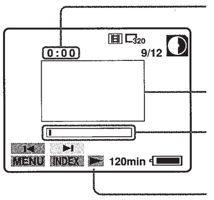
Basic operations

The indicators during playback

During playback still images (STILL)



During playback moving images (MOVIE)/Still images with sounds (VOICE)



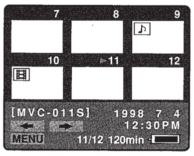
In Index screen mode (INDEX)

[⬅] : To display the preceding 6 images.

[➡] : To display the following 6 images.

[🎞] : Moving image file (MOVIE)

[♪] : Still image with sound file (VOICE)



- To return to the normal playback screen (Single screen), select an image with the control button, then press it.
- The number displayed at the upper right side of the image shows the recording order on the disk. It is different from the file number (p. 31).

Basic operations

Functions you can use for playback of recorded images

Adjusting the volume of the speaker (p. 9)

Adjusting the brightness of the LCD screen (p. 9)

Protecting images – PROTECT (p. 32)

Copying recorded images to another floppy disk – COPY (p. 33)

Deleting images – DELETE (p. 34)

Note

The images recorded by this camera may not be played back correctly by MVC-FD5/FD7/FD51/FD71/FDR1/FDR3.

Battery life/No. of images that can be recorded/played back

STILL mode

Battery		Battery life (min.)	No. of images (record/playback)
NP-F330	Continuous recording*	55 (50)	650 (550)
(Supplied)	Continuous playing**	100 (90)	1500 (1350)
NP-F530	Continuous recording*	90 (80)	1100 (950)
	Continuous playing**	160 (140)	2400 (2100)
NP-F550	Continuous recording*	120 (110)	1500 (1350)
	Continuous playing**	210 (190)	3100 (2800)

Approximate battery life and no. of images that can be recorded/played back at a temperature of 77°F (25°C), 640 × 480 image size, in NORMAL recording and STANDARD quality mode. Numbers in parentheses indicate the time when using a normally charged battery. The battery life and no. of images are the same as when using the flash. If you record 1240 × 768 size images, the no. of images that can be recorded is reduced from the above figures by about 10%.

* Recording at about 5 second intervals
** Playing back single image at about 4 second intervals

MOVIE mode

Battery		Battery life (min.)	No. of images (record)
NP-F330 (Supplied)	Continuous recording	55 (50)	35 (30)
NP-F530	Continuous recording	90 (80)	55 (50)
NP-F550	Continuous recording	130 (115)	85 (75)

Approximate minutes that can be recorded at a temperature of 77°F (25°C) and 160 × 112 image size. Numbers in parentheses indicate the time when you use a normally charged battery.

- Battery life and no. of images will be decreased if you use the camera in a cold environment or while you repeat turning the power on/off and zooming.
- The capacity of a floppy disk is limited. The above figures are a guide when continuously recording/playing back while replacing the floppy disks.
- Battery life and no. of images when using the LCD panel are same as those when using the viewfinder.

Viewing images using a personal computer

With this camera, the still image data is compressed in JPEG format and move image data is compressed with MPEG-1 format. These data can be viewed using a personal computer which installed JPEG and MPEG browsing software as Microsoft Internet Explorer 4.0. For further information to use the browsing software, refer to the personal computer instruction manual.

Example: personal computer with Windows 95/98 installed

1. **Start up personal computer and insert the floppy disk into the disk drive of the personal computer.**
2. **Open " My computer" and double click " 3.5 inch FD (A:)".**
3. **Double-click the desired data file.**

Basic operations

Recommended OS/applications example

OS

Windows 3.1, Windows 95 or later, Windows NT3.51 or later, etc.

applications

Microsoft Internet Explorer 4.0, Netscape Navigator etc.

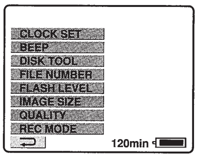
To display the image list, double-click "MAVICA.HTM" of the floppy disk recorded with this camera if your personal computer is installed with a browser such as Microsoft Internet Explorer.

Notes
- To play back an MPEG file, install ActiveMovie Player (DirectShow).
- For playing back a file recorded in MOVIE or VOICE mode, first copy it to the hard disk of the personal computer. If you play back the file from a floppy disk, the picture and sound may break off.
- You cannot play back an MPEG file with Windows 3.1.
- Opening non-compressed images recorded in BITMAP mode (p. 28) requires an application program designed to view bitmapped images.
- For Macintosh, you can use the floppy disk recorded with this camera using the PC Exchange with Mac OS system 7.5 or higher. A viewing application for Macintosh is also necessary for viewing images. To play back an MPEG file, install QuickTime 3.0.

Changing the mode settings

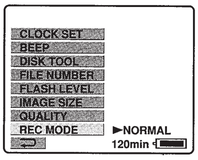
1 Select "MENU" with the control button, then press it.

The menu appears on the LCD screen.



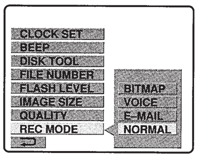
2 Select desired item with the control button, then press it.

When an item is selected, the color of the item changes from blue to yellow.



3 Change the setting with the control button, then press it.

When the setting is finished, the menu screen returns to the screen of step 1.



To cancel changing the mode settings

Press the left side of the control button. The screen returns to the menu screen. To cancel the menu screen, select "[↩]" with the control button, then press it.

Setting the mode of each item

* is set at the factory.

Items in STILL mode

REC MODE <NORMAL*/[E-MAIL icon]E-MAIL/[VOICE icon] VOICE/ [BMP]BITMAP>

- Normally select NORMAL. A JPEG file is recorded in selected image size.
- Select E-MAIL to record a 320 × 240 JPEG file besides a 640 × 480 (or 1024 × 768) JPEG file. E-mail files are suitable for e-mail transmission, etc. because they contain compressed data.
- Select VOICE to record a still image and sound together besides a JPEG file.
  Press the shutter button down momentarily.
  The sound is recorded for 5 seconds.
  Hold the shutter button down.
  The sound is recorded until you release it. (Maximum 40 seconds)
- Select BITMAP to record a non-compressed image (640 × 480) besides a JPEG file. This is good for recording images in clearer detail.

Recording mode	Image size	Recorded file	File name (ex.)** MVC–	No. of images that can be recorded on a floppy disk: STANDARD	FINE
NORMAL	1024 × 768	JPEG (1024 × 768)	001L.JPG	10 – 16	6 – 8
		For index screen	001L.411		
	640 × 480	JPEG (640 × 480)	001S.JPG	25 – 40	15 – 20
		For index screen	001S.411		
E-MAIL	1024 × 768	JPEG (1024 × 768)	001L.JPG	9 –14	5 – 7
		JPEG (320 × 240)	001E.JPG		
		For index screen	001L.411		
	640 × 480	JPEG (640 × 480)	001S.JPG	20 – 35	12 – 15
		JPEG (320 × 240)	001E.JPG		
		For index screen	001S.411		
VOICE	1024 × 768	JPEG (1024 × 768)	001L.JPG	4 – 9	3 – 6
		MPEG audio with still image (320 × 240)	001A.MPG		
		For index screen	001L.411		
	640 × 480	JPEG (640 × 480)	001S.JPG	5 – 14	4 – 10
		MPEG audio with still image (320 × 240)	001A.MPG		
		For index screen	001S.411		
BITMAP*	1024 × 768	JPEG (1024 × 768)	001L.JPG	1	1
		Non-compress (640 × 480)	001L.BMP		
		For index screen	001L.411		
	640 × 480	JPEG (640 × 480)	001S.JPG	1	1
		Non-compress (640 × 480)	001S.BMP		
		For index screen	001S.411		

* The non-compressed image in BITMAP mode is 640 × 480 size regardless of IMAGE SIZE in the MENU settings.

** If you record images in FINE quality mode, the last character of file name will be "X" or "F". (ex. MVC-001**X**.JPG)

Notes

- The file data for index screen is a available only on this camera.
- If you attempt to record 55 images or above, "DISK FULL" appears on the LCD screen and you cannot record the image even when the remaining disk capacity indicator is not emptied.
- 320 × 240 size E-mail files are stored in another folder. The compression ratio is standard and does not depend on the image quality settings.
- A remaining capacity of about 1MB is needed when recording in BITMAP mode. After recording the BITMAP picture, "DISK FULL" appears on the LCD screen.
- The images recorded in VOICE mode are displayed one-size smaller than the other normal-sized images.
- When the remaining disk capacity indicator flashes, image and sound data cannot be recorded.

QUALITY <FINE/STANDARD*>

- Select FINE when giving priority to image quality.
- Select STANDARD as a standard image quality.

IMAGE SIZE <640 x 480/1024 x 768*>

Select a size of JPEG still image.

FLASH LEVEL <HIGH/NORMAL*/LOW>

- Select HIGH to make the flash level higher than normal.
- Normally select NORMAL.
- Select LOW to make the flash level lower than normal.

Items in MOVIE mode

IMAGE SIZE <320 x 240/160 x 112*>

Select a size of MPEG moving image.

Image size	Recorded file	File name (ex.) MVC–	Recording time on a floppy disk* (sec.)
160 × 112	MPEG (160 × 112) For index screen	001V.MPG 001V.411	60
320 × 240	MPEG (320 × 240) For index screen	001W.MPG 001W.411	15

* Approximate continuous recording time.

Items for both STILL and MOVIE mode

FILE NUMBER <NORMAL*/SERIES>

- Select NORMAL to reset the numbering of files each time the floppy disk is changed.
- Select SERIES to put numbers to files in sequence even if the floppy disk is changed.

DEMO MODE <STANDBY/ON* or OFF>

Only when you use the AC power adaptor (not supplied), DEMO MODE appears in the menu.
- Select ON to make the demonstration appear. The demonstration will start about 10 minutes after the power is turned on if the camera has not been operated.
- Select OFF to deactivate the demonstration mode.

Note

To stop the demonstration, turn off the camera.

Items in PLAY mode

PROTECT

Select this item to protect a displayed image(s) from being deleted by mistake.
To protect or unprotect an image file, select the desired option from the menu while the image is displayed on the LCD screen.

In Single screen mode

<ON/OFF*>
- Select ON to protect displayed image.
- Select OFF to release protection of the image.

In Index screen mode

<ALL/SELECT>
- Select ALL to protect all images recorded with this camera.
- Select SELECT to protect selected images.

① **Use the control button to display the red ▶ mark at the image you want to protect.**
The selected image number reverses color. To cancel selection, press the control button again. The image number returns to normal.

② **Select "ENTER" with the control button, then press it.**
O‑┐ appears on the upper left side of the image.

To cancel protection of the images in Index screen mode, select the images you want to cancel protection in step ①, then press the control button.
The "O‑┐" indicator at the upper left side of the image disappears.
When you have finished the cancelling, select "ENTER" with the control button, then press it.

To cancel protecting image, select "CANCEL" with the control button, then press it. The screen returns to the menu screen.

COPY

Select this item to copy a displayed image(s) to another floppy disk.
To copy an image(s), select the desired copy option from the menu while the image(s) is displayed on the LCD screen.

In Single screen mode

<OK/CANCEL>
- Select OK to copy displayed image.
- Select CANCEL to cancel copying image.

In Index screen mode

<ALL/SELECT>
- Select ALL to copy all images recorded with this camera.
- Select SELECT to copy selected images.

① **Use the control button to display the red ▶ mark at the image you want to copy.**
The selected image number reverses color. To cancel selection, press the control button again. The image number display returns to normal.

② **Select "ENTER" with the control button, then press it.**

To cancel copying image, select "CANCEL" with the control button, then press it. The screen returns to the menu.

To copy to another floppy disk

1 **In Single screen mode, select "OK". Or In Index screen mode, select "ALL", then "OK" or select "SELECT", then carry out steps ① and ② above.**
"CHANGE FLOPPY DISK" will be displayed.

2 **Eject the floppy disk.**
"INSERT FLOPPY DISK" will be displayed.

3 **Insert another floppy disk until you hear it click.**
"DISK ACCESS" will be displayed.

4 Once copying is completed, the message "COMPLETE" is displayed.
To copy images to another floppy disk, select "CONTINUE" with the control button and repeat the operations in steps 2 through 4 above.
To discontinue copying, select "EXIT" with the control button.

Notes
- When you copy to the floppy disk which is a small remaining capacity, "DISK FULL" may appear on the LCD screen.
- To discontinue copying onto a floppy disk halfway (in the middle of steps from 1 to 4 above), change PLAY/STILL/MOVIE or turn off the camera.

DELETE

Select this item to delete a displayed image(s).
To delete an image(s), select the desired delete option from the menu while the image(s) is displayed on the LCD screen.

In Single screen mode

<OK/CANCEL>
- Select OK to delete displayed image.
- Select CANCEL to cancel deleting image.

In Index screen mode

<ALL/SELECT>
- Select ALL to delete all images recorded with this camera.
- Select SELECT to delete selected images.

① **Use the control button to display the red ▶ mark at the image you want to delete.**
The selected image number reverses color. To cancel selection, press the control button again. The image number display returns to normal.

② **Select "ENTER" with the control button, then press it.**

To cancel deleting image, select "CANCEL" with the control button, the press it. The screen returns to the menu screen.

Notes
- Once deleted an image cannot be restored. Before deleting, carefully check the images you intend to delete.
- Even when you select "ALL", you cannot delete the protected image.
- When you select "SELECT", you cannot select a protected image.

Items for STILL, MOVIE and PLAY modes

DISK TOOL <FORMAT/DISK COPY>

- Select FORMAT to format the floppy disk loaded in the camera.
- Select DISK COPY to copy all data stored in a floppy disk to another.

To copy all data stored in a floppy disk to another

1 Select "DISK COPY", then "OK".
"FILE ACCESS" will be displayed.

2 When "CHANGE FLOPPY DISK" is displayed, eject the floppy disk.

3 When "INSERT FLOPPY DISK" is displayed, insert another disk.
"DISK ACCESS" will be displayed.

4 Once copying is completed, the message "COMPLETE" is displayed.
To copy images to another floppy disk, select "CONTINUE" with the control button and repeat the operations in steps 2 through 4 above.
To discontinue copying, select "EXIT" with the control button.

Notes
- To discontinue copying onto a floppy disk halfway (in the middle of steps 1 to 4 above), change PLAY/STILL/MOVIE or turn off the camera.
- Formatting erases all information on the floppy disk, and with copying disk, all information saved on the recipient floppy disk are erased to be replaced by newly written data including the protected image data. Check the contents of the disk before formatting and copying disk.
- Be sure that the battery is fully charged when formatting and copying a floppy disk. Formatting and copying takes about 1 minutes maximum.
- Be sure to use the formatted floppy disk to carry out DISK COPY.

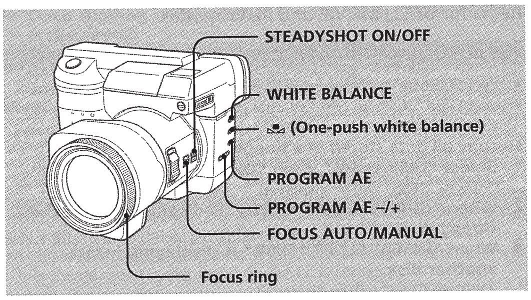
BEEP <ON*/OFF>

- Normally select ON.
- Select OFF to turn the beep/shutter sound off.

CLOCK SET

Select this item to set the date and time. See page 14.

Using various functions for recording



Focusing manually

➡ See page 47

1 Set FOCUS AUTO/MANUAL to MANUAL.
appears on the LCD screen or in the viewfinder.

2 Turn the focus ring to achieve a sharp focus.
The position marked " ▸•◂ " indicates the area in focus.

To reactivate auto focusing (AF), set FOCUS AUTO/MANUAL to AUTO.

Notes
- When recording in relatively dark environment, it is recommended to record after focusing manually.
- When you focus manually in dark environment " ▸•◂ " may not be displayed.

Releasing the SteadyShot function

➡ See page 48

Set STEADYSHOT to OFF.
disappears on the LCD screen or in the viewfinder.

To reactivate SteadyShot function, set STEADYSHOT to ON.

Adjusting the white balance

➡ See page 48

Press WHITE BALANCE repeatedly to select the desired white balance mode.

No indication	:	Automatic white balance (AWB) mode
(one-push)	:	One-push white balance mode
☀	:	Outdoor mode
(indoor)	:	Indoor mode

Setting the (One-push white balance) button

1 Press WHITE BALANCE repeatedly to select .

2 Attach the supplied white lens cap and point the camera at a subject.

3 Press .

The indicator starts to flash quickly.
Once the white balance is set, the indicator stops flashing.

Notes
- The indicator means:
  Slowly flashing: white balance has not been set.
  Quickly flashing: white balance is being adjusted (after you pressed).
  Lit steady: white balance has been set.
- If the indicator keeps flashing even when you press , record in automatic white balance mode.
- When you record with the studio-lighting, use (indoor) mode.
- When you record under fluorescent lighting, use the automatic white balance mode.
- If the lithium battery is installed, the setting is saved for about one hour if you remove the power source.
- When you record with the flash, use the automatic white balance mode.

Using the PROGRAM AE function

➡ See page 49, 50

Press PROGRAM AE repeatedly to select the desired PROGRAM AE mode.

AE A	:	Aperture Priority mode
AE S	:	Shutter Priority mode
☽	:	Twilight mode

To reactivate the automatic adjustment mode, press PROGRAM AE repeatedly until the indicator on the LCD screen or in the viewfinder disappears.

Using the Aperture Priority mode

1 Press PROGRAM AE repeatedly to select AE A.

2 Press –/+ under PROGRAM AE repeatedly to select the desired aperture value.

You can select from the following 12 value: F1.8, F2, F2.4, F2.8, F3.4, F4, F4.8, F5.6, F6.7, F8, F9.6, F11.
For a smaller aperture, select a higher value.

Using the Shutter Priority mode

1 Press PROGRAM AE repeatedly to select AE S.

2 Press –/+ under PROGRAM AE repeatedly to select the desired shutter speed.

Note that the shutter speed is indicated as, for example, "100" for 1/100 shutter speed.
You can select from the following 13 speeds: 1/60, 1/80, 1/100, 1/125, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000.
For a faster shutter speed, select a larger value indicator.

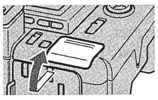
Note

When the shutter speed is faster than 1/1500, the flash will not work.

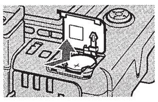
Changing the lithium battery in the camera

When the lithium battery becomes weak or dead, the "⌁" indicator flashes on the LCD screen. In this case, replace the battery with a Sony CR2025 or Duracell DL-2025 lithium battery. Use of any other battery may present a risk of fire or explosion.
When installing the lithium battery, keep the battery pack attached. Otherwise, you will need to reset the date and time retained by the lithium battery.

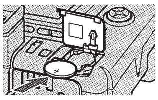
1 Slide the lid of the lithium battery compartment and open it.



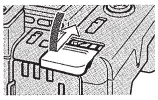
2 Push the lithium battery once and push it out from the holder.



3 Install the lithium battery with the positive (+) side facing out.



4 Close the lid.



WARNING

The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same type recommended by the manufacturer.
Discard used batteries according to the manufacturer's instructions.

Precautions

On cleaning

Cleaning the LCD screen

Wipe the screen surface with a LCD cleaning kit (not supplied) to remove fingerprints, dust, etc.

Cleaning the camera surface

Clean the camera surface with a soft cloth slightly moistened with water. Do not use any type of solvent such as alcohol or benzene as it may mar the finish of the casing.

Using the camera on a sandy beach or in a dusty place

Do not let sand get into the camera. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired.

Concerning floppy disks

To protect data recorded on floppy disk, note the following:

- Avoid storing floppy disks near magnets or magnetic fields such as those of speakers and televisions, permanent erasure of disk data may result.
- Avoid storing floppy disks in areas subject to direct sunlight or sources of high temperature, such as a heating device. Floppy disk warping or damage may result, rendering the disk useless.
- Avoid contact with the disk's surface by opening the disk shutter plate. If the disk's surface becomes blemished, data may be rendered unreadable.
- Avoid getting liquids on the floppy disk.
- Be sure to use a floppy disk case to ensure protection of important data.
- Use a 2HD or 2DD type disk head cleaner when cleaning the disk drive.
- Even when you use a 3.5 inch 2HD floppy disk, image data may not be recorded and/or displayed depending on the using environment. In this case, use other brand disks.

Operational temperature recommendations

This camera's operational temperature is between 32°F to +104°F (0°C to +40°C). Do not use this camera in extreme climates outside the operational temperature range.

Moisture condensation

If the camera is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense inside or outside the camera. Should this occur, the camera will not operate properly. In this case, remove the floppy disk, turn off the camera, and wait about an hour for the moisture to evaporate.

To prevent moisture condensation

When bringing the camera from a cold place to a warm place, put the camera in a plastic bag and allow it to adapt to room conditions over a period of time.

① Be sure to tightly seal the plastic bag containing the camera.
② Remove the bag when the air temperature inside it has reached the temperature surrounding it (about 1 hour).

Notes on lithium battery

- Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- Note that the lithium battery has a positive (+) and a negative (–) terminal. Be sure to install the lithium battery so that symbols on the battery match the symbols on the camera.

Troubleshooting

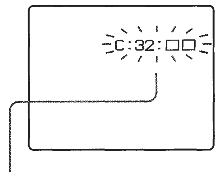
Should any problem persist after you have made those checks, consult your nearest Sony dealer. **If "C: □□: □□" appears on the LCD screen, the self-diagnosis function has worked. See page 44.**

Symptom	Cause and/or Solution
The camera does not work.	• The camera does not operate when using a battery pack that is not an "InfoLITHIUM" battery pack. → Use an "InfoLITHIUM" battery pack. (p. 14) • The floppy disk is not installed properly. → Remove the disk and reinstall it. (p. 8)
You cannot record images.	• PLAY/STILL/MOVIE is not set to STILL or MOVIE. → Set it to STILL or MOVIE. (p. 17, 18) • No floppy disk has been installed. → Install a formatted floppy disk. • The tab on the disk is set to the non-recording position. → Set it to the recording position. (p. 8)
The picture is noisy.	• The camera is placed near a TV or other equipment that uses strong magnets. → Place the camera away from the TV, etc.
The picture is too dark.	• You are shooting a subject with the light source behind the subject or light is insufficient. → Adjust brightness of the image. (p. 11) • The LCD screen adjustment is too dark. → Adjust brightness. (p. 9)
The flash does not work.	• The no flash mode is set. → Set it to the Auto or Forced-flash mode. (p. 11) • The flash is not lifted up. → Slide OPEN (FLASH). (p. 9)
Incorrect date and time are recorded.	• The date and time are not set. → Set the date and time. (p. 14)
Vertical streaks appear when shooting a very bright subject.	• The smear phenomenon. → The camera is not malfunctioning.

Symptom	Cause and/or Solution
The battery life deteriorates too fast.	• The ambient temperature is too low. • Charging of the battery pack is not enough. → Charge the battery pack fully. • The battery pack has served its time. → Replace the battery pack with a new one.
You cannot play back the images on the LCD screen.	• PLAY/STILL/MOVIE is not set to PLAY. → Set it to PLAY. (p. 21) • The battery is dead. → Use a charged battery pack.
The picture and sound break off when you play back the images using a personal computer.	• The image file is on a floppy disk. → Copy to the hard disk of a personal computer. Then play back the image from the hard disk. (p. 26)
You cannot play back the image using a personal computer.	• Contact your personal computer maker or software maker.
You cannot delete an image.	• The image is protected. → Cancel the protection of the image. (p. 32)
The power turns off automatically.	• If you leave the camera inactive in STILL/MOVIE mode for about 3 minutes while the power is on, it turns off automatically to prevent wearing down the battery. → Turn the power on.

Self-diagnosis display

The camera has a self-diagnosis display. This function displays the camera condition with five-digits (a combination of a letter and figures) on the LCD screen. If this occurs check the following code chart. The five-digit display informs you of the camera's current condition. The last two digits (indicated by □□) will differ depending on the state of the camera.



Self-diagnosis display

• C: □□: □□
You can reverse the camera malfunction yourself.

• E: □□: □□
Contact your Sony dealer or local authorized Sony service facility.

First three digits	Cause and/or Corrective Action
C:32:□□	• Trouble is with the disk drive. →Turn the power off and on again.
C:13:□□	• An unformatted disk is installed. →Format the disk. (p. 35) • An unusable disk with the camera is installed. →Change the disk. (p. 8)
E:91:□□ E:61:□□	• A camera malfunction which you can not reverse has occurred. →Contact your Sony dealer or local authorized Sony service facility and inform them of the five digits. (example: E:61:10)

Warning messages

Various messages appear on the LCD screen. Check them with the following list.

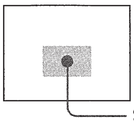
Message	Meaning
DRIVE ERROR	Trouble is with the disk drive.
NO DISK	No disk has been inserted.
DISK ERROR	Trouble is with the disk or the floppy disk loaded is not MS-DOS formatted (512 bytes x 18 sectors).
DISK PROTECT	The tab on the disk is set to the non-recording position.
DISK FULL	The disk is full.
NO FILE	No image has been recorded on the disk.
FILE ERROR	Trouble has occurred during playback.
FILE PROTECT	The image is protected.
	The battery is weak.
	The lithium battery is weak or is not installed.

Function guide

Spot light-metering mode – p. 11

This camera has an automatic exposure (AE) function that automatically decides what the best exposure is. Complete photometry uses light meter data for the entire picture to calculate and determine exposure value. Use the spot light-metering mode to take a picture with the appropriate exposure for just the point you want to focus on.

LCD screen or viewfinder



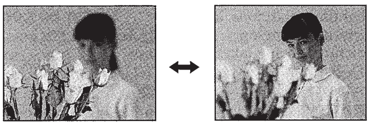
Spot light-metering range

When do you use it?

- When there is backlight.
- When there is strong contrast between subject and background such as with a subject that is on stage and lighted by a spotlight.

Manual focusing – p. 36

This camera has an automatic focusing (AF: autofocus) function. Autofocus requires adequate light and the right kind of contrast between light and dark. When it is hard to use autofocus, use manual focus.



When do you use it?

- When focus cannot be determined because the subject is on the opposite side of a window that has water drops on it.
- When you are using a tripod and want to fix focus on a stationary object.
- When contrast between subject and background is low.
- When you want to change the position of focus.

SteadyShot function – p. 36

The SteadyShot function detects shaking in the camera and compensates for it. This is a very handy function when pictures are being taken with the camera hand-held. When the camera is mounted on a tripod and there is no concern about the camera vibrating from shaky hands, release the SteadyShot function to get a more natural picture.

White balance – p. 37

White can look like some other color depending on what the light source is. Clothes that are white under natural sunlight may look yellow under incandescent bulbs and blue under fluorescent lamps. The automatic white balance (AWB) mode adjusts for this difference in light source so that a white object will always look the same. The white balance adjustment allows white colors to look more natural.

When do you use it?

Examples of picture-taking conditions	White balance indicator
• If the subject or background is all the same color.	
• At night-time with neon or fireworks in the picture • At sunset or sundown • Under daytime-fluorescent light	
• If the lighting conditions, like those at a party, are changing. • If the picture is being taken in a studio lit by TV lighting. • If the subject is being lit by sodium- or mercury-vapor lamps.	

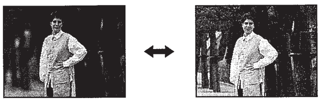
One-push white balance

This function is for manually adjusting white balance to suit lighting conditions and then keeping the adjustment set. As long as there are no changes in lighting conditions, the subject can be taken in its natural color and the surrounding conditions will not affect the subject.

Program AE – p. 38

AE A Aperture priority mode

This function allows depth of field to be set to any level desired. The camera's shutter speed is automatically set to optimum in line with the assigned aperture value.



When the aperture is open (lowering the aperture value), the focus range is narrow (shallow depth of field for subject). This diffuses the background and makes the subject stand out.

When the aperture is closed, the focus range is wide (deep depth of field for subject). The picture shows both the person and the background in similar clarity.

What is depth of field?

When the focus is on the subject, things to front and back of the subject look blurred, and the range at which the focus is actually seen is called the depth of field.

When do you use it?

- When you are in a dark place and you want to have a bright picture (open).
- When you want to make the subject stand out against an unclear background (open).
- When you want both the subject and the background to stand out clearly (closed).

AE S Shutter speed priority mode

This allows the shutter speed to be set in accordance with picture taking conditions or brightness. The camera will automatically adjust to the best aperture value in line with the set shutter speed.

When do you use it?

- When you want to take a picture of a fast-moving object and you don't want the object to blur (fast shutter speed).
- When you want to take a picture of a dark object and you want it to be bright (slow shutter speed).
- When you want to show the flow of motion of a moving object (slow shutter speed).

Twilight mode

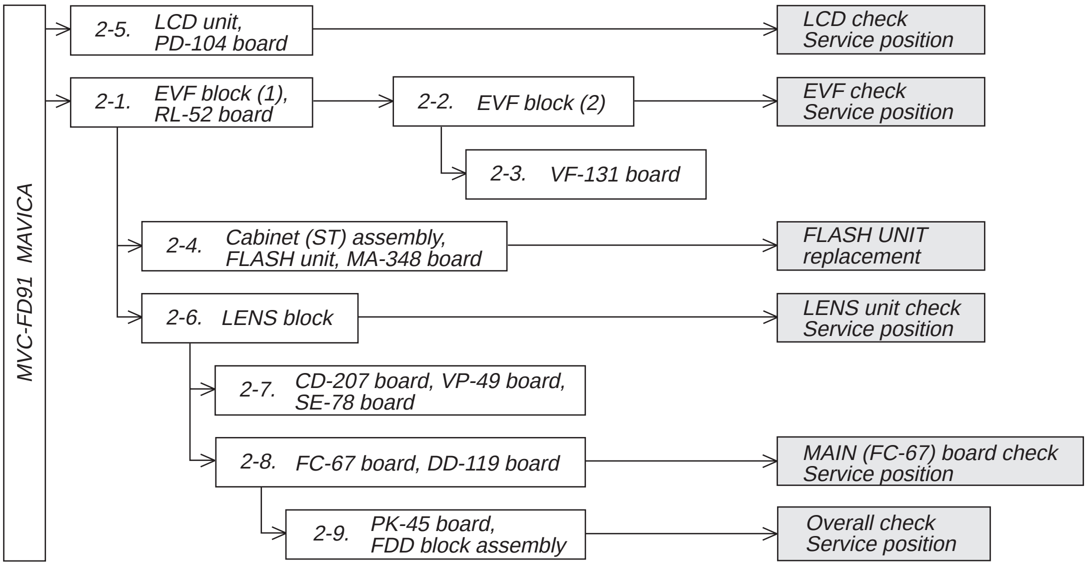
This suppresses the blurring of colors of a subject that you want to take in a dark place but want it to be bright and not lose the dark atmosphere of the surroundings. Automatically adjusts the aperture so that the brightness is maintained at the right level and automatically keeps the shutter speed.

When do you use it?

Taking pictures of night-time scenes, neon lights, fireworks, etc.

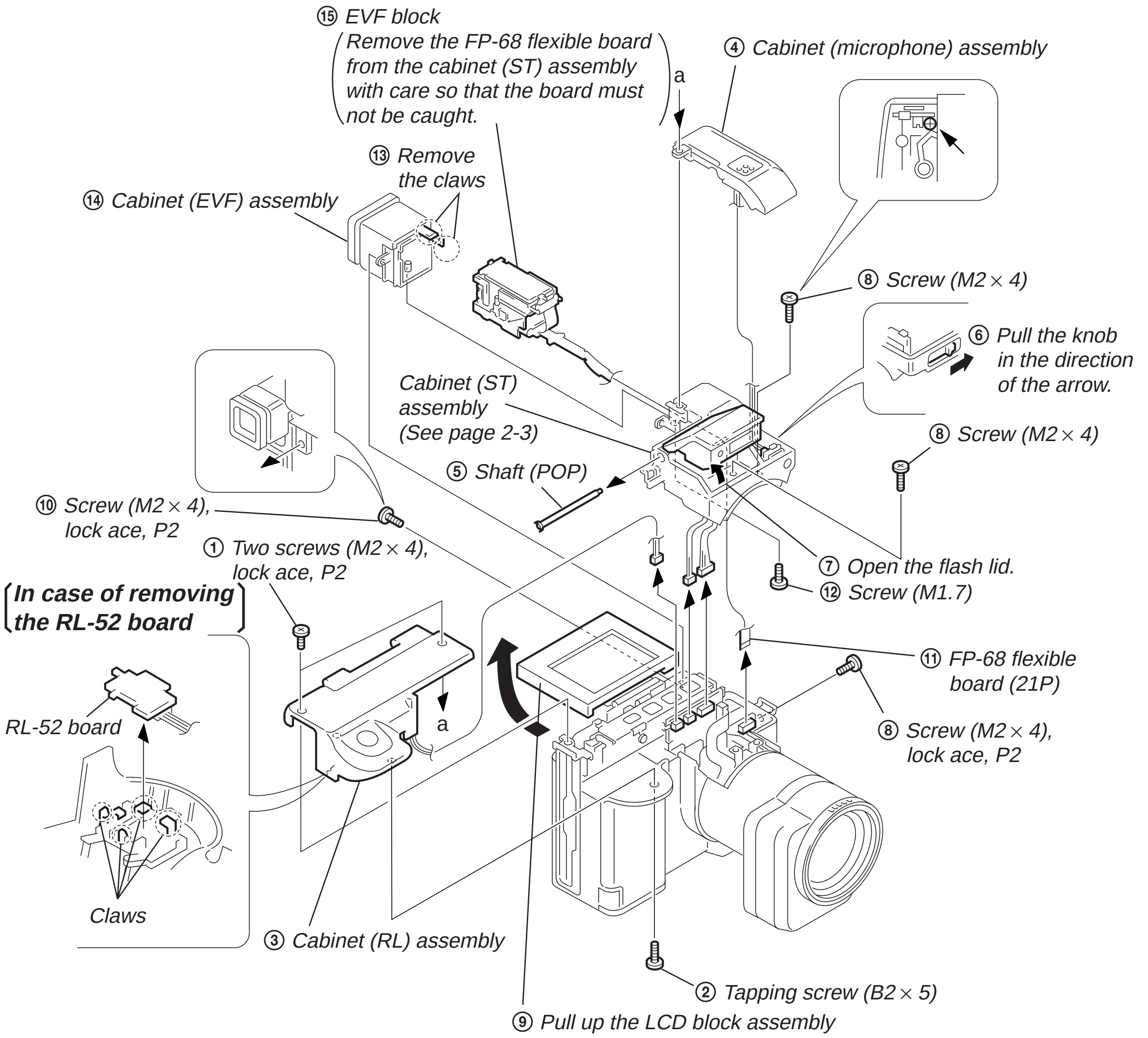
SECTION 2
DISASSEMBLY

NOTE: Follow the disassembly procedure as shown in the flow chart below.

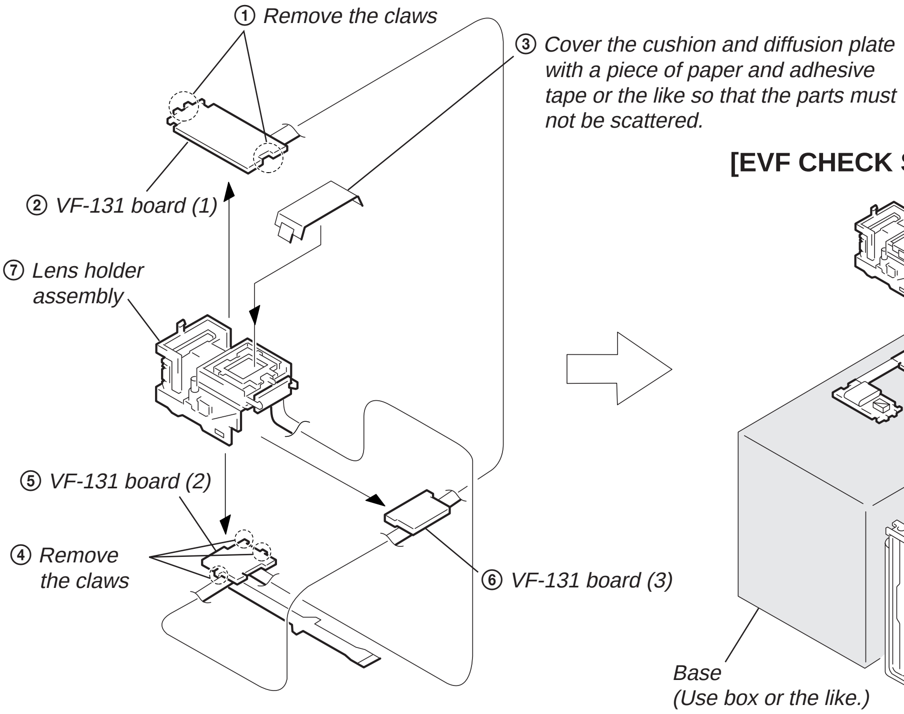


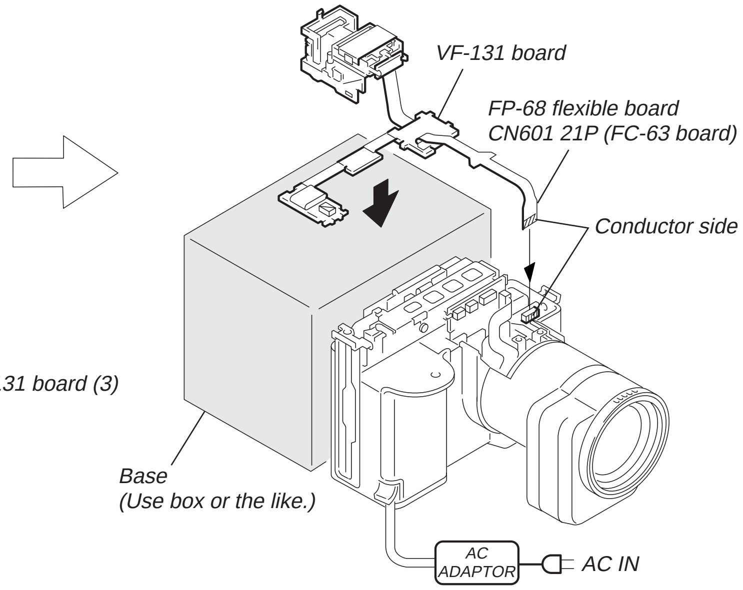
NOTE: Follow the disassembly procedure in the numerical order given.

2-1. EVF BLOCK (1), RL-52 BOARD

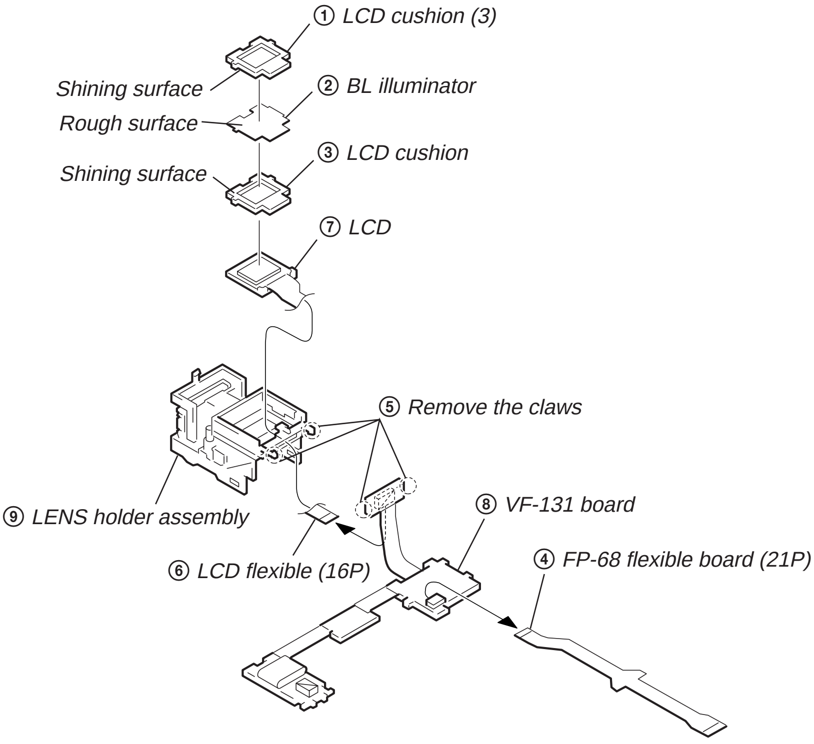


2-2. EVF BLOCK (2)

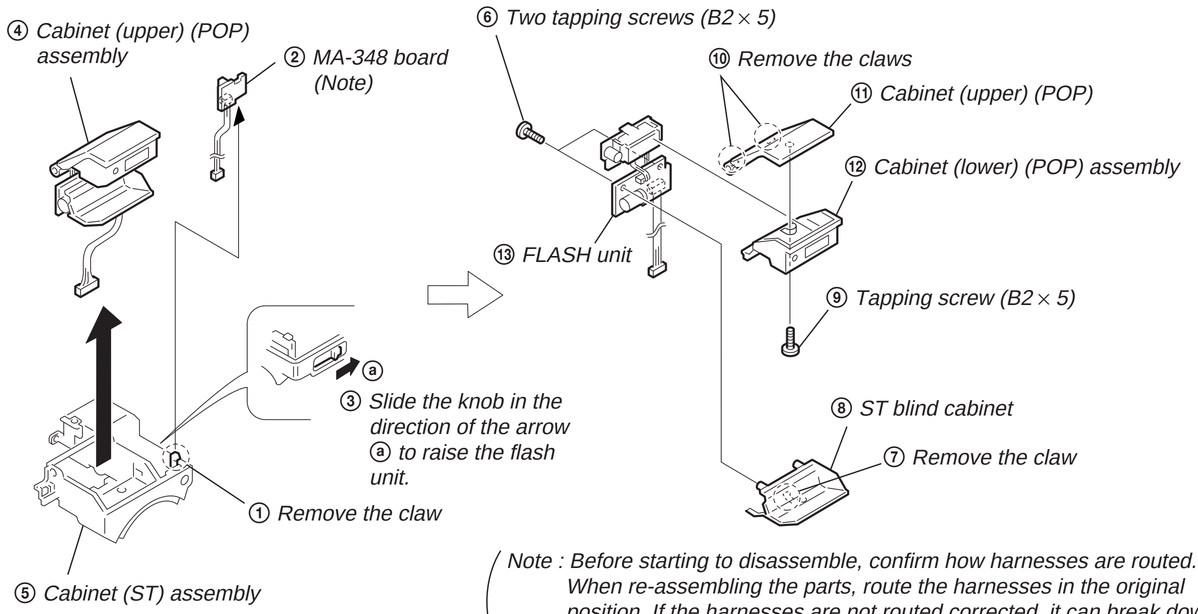




2-3. VF-131 BOARD

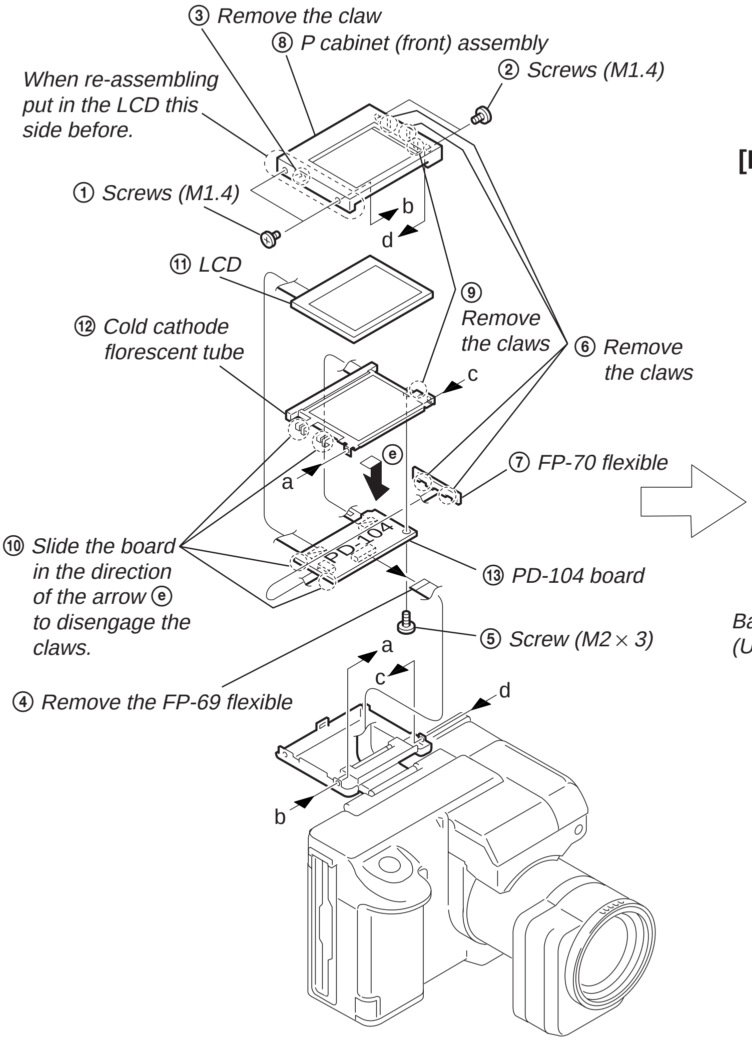


2-4. CABINET (ST) ASSEMBLY, FLASH UNIT, MA-348 BOARD

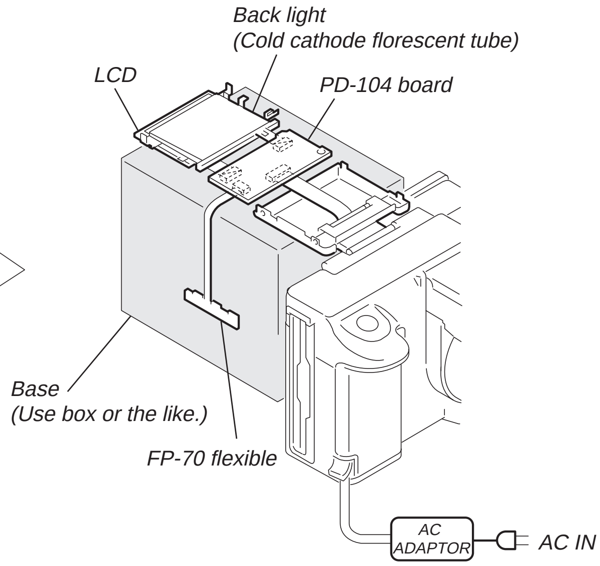


Note : Before starting to disassemble, confirm how harnesses are routed. When re-assembling the parts, route the harnesses in the original position. If the harnesses are not routed corrected, it can break down the harnesses when the Cabinet (ST) assembly is re-assembled.

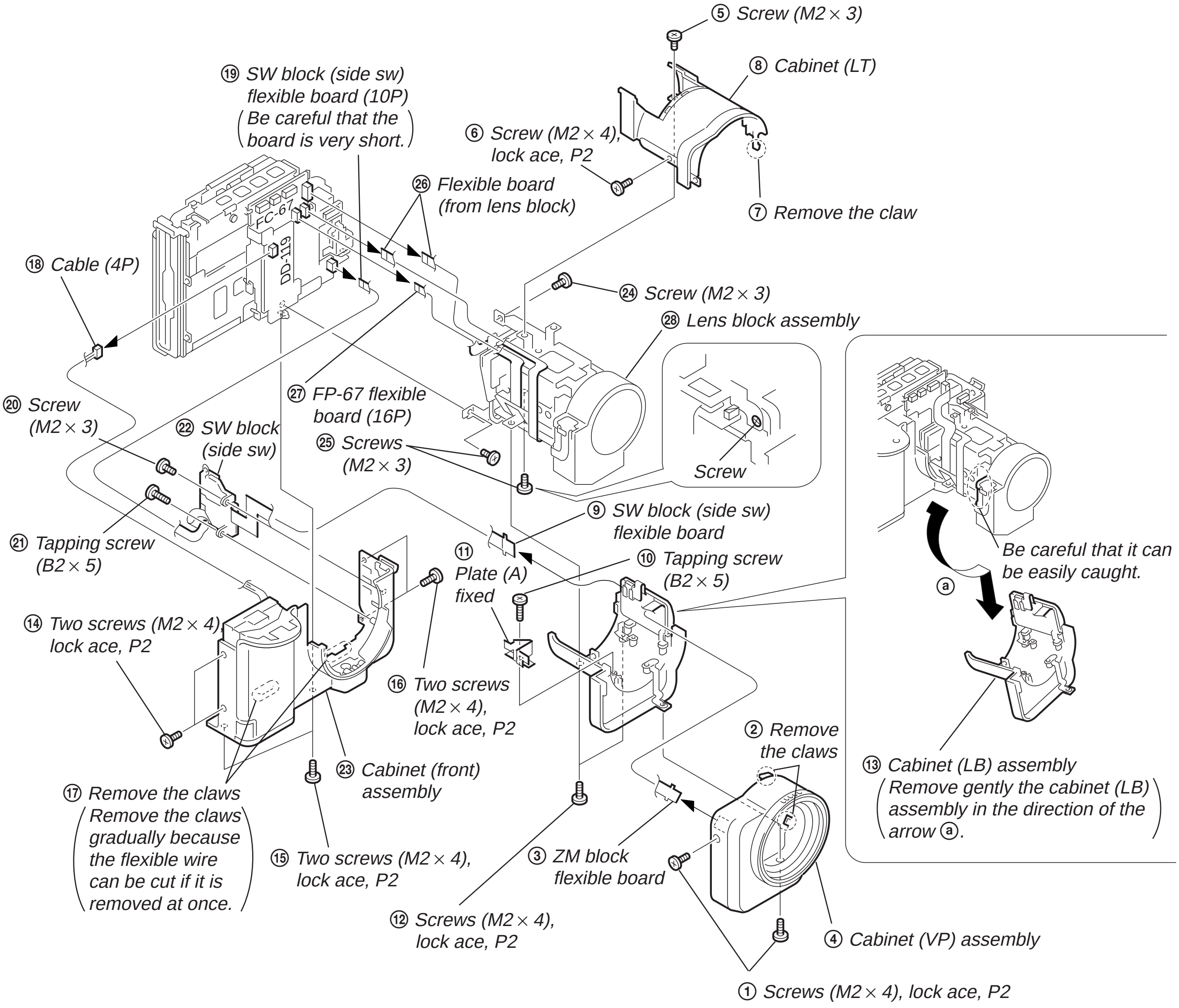
2-5. LCD UNIT, PD-104 BOARD



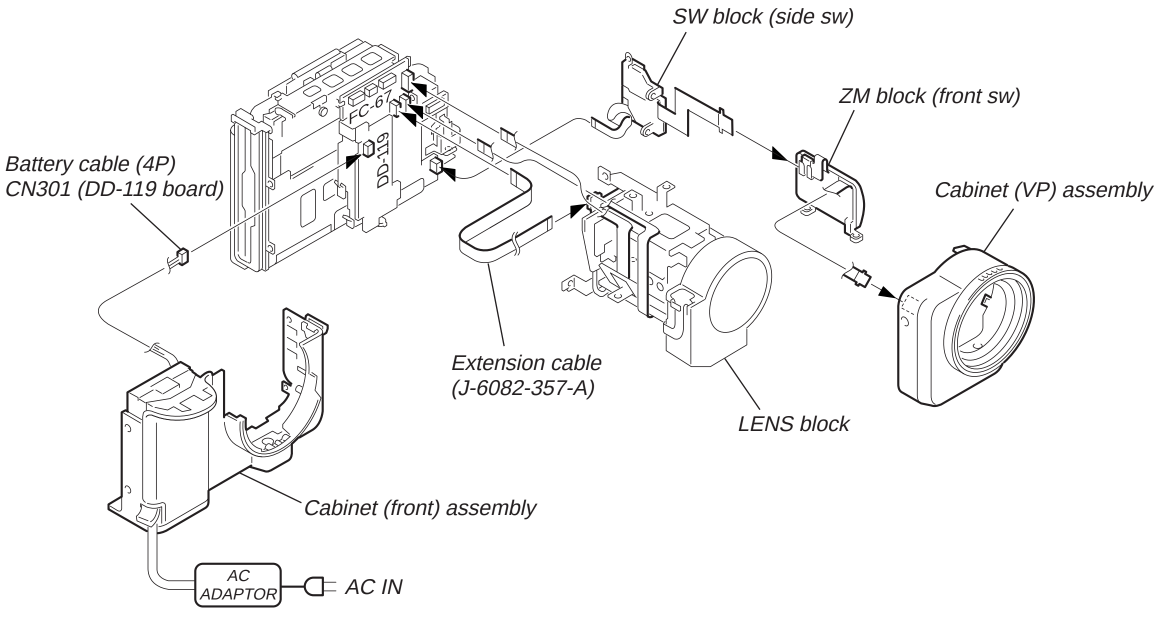
[LCD CHECK SERVICE POSITION]



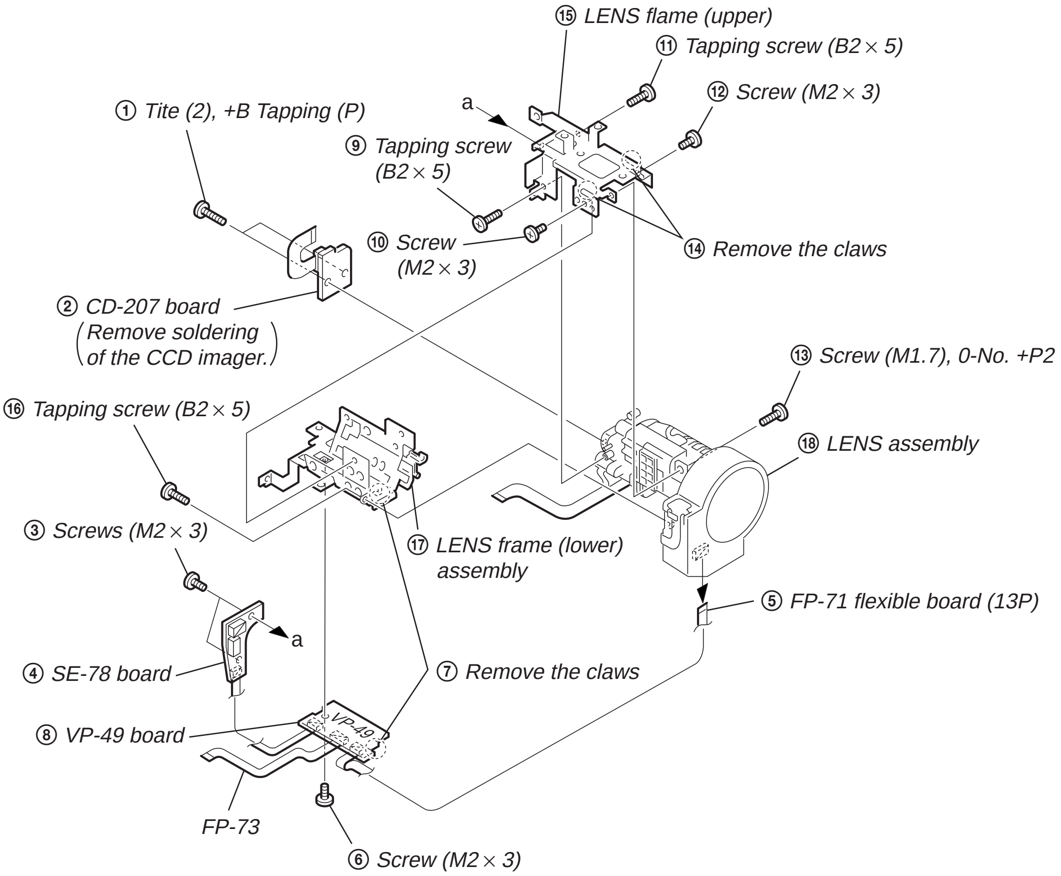
2-6. LENS BLOCK



[LENS BLOCK CHECK SERVICE POSITION]

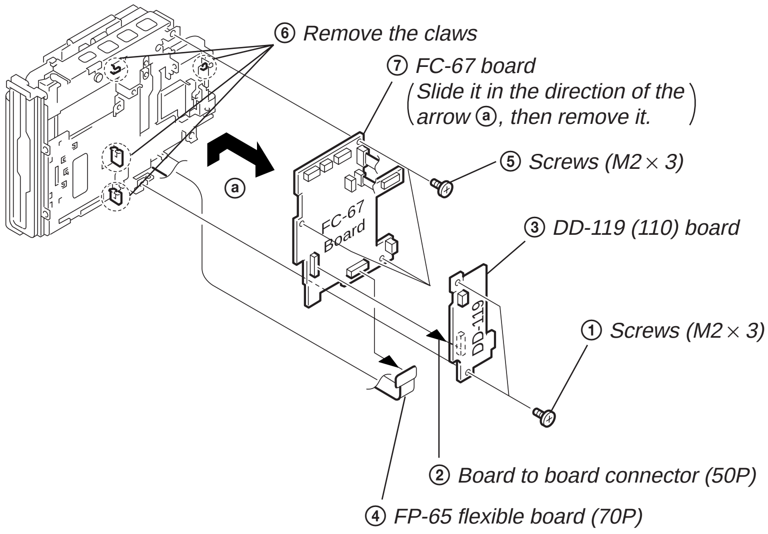


2-7. CD-207 BOARD, VP-49 BOARD, SE-78 BOARD

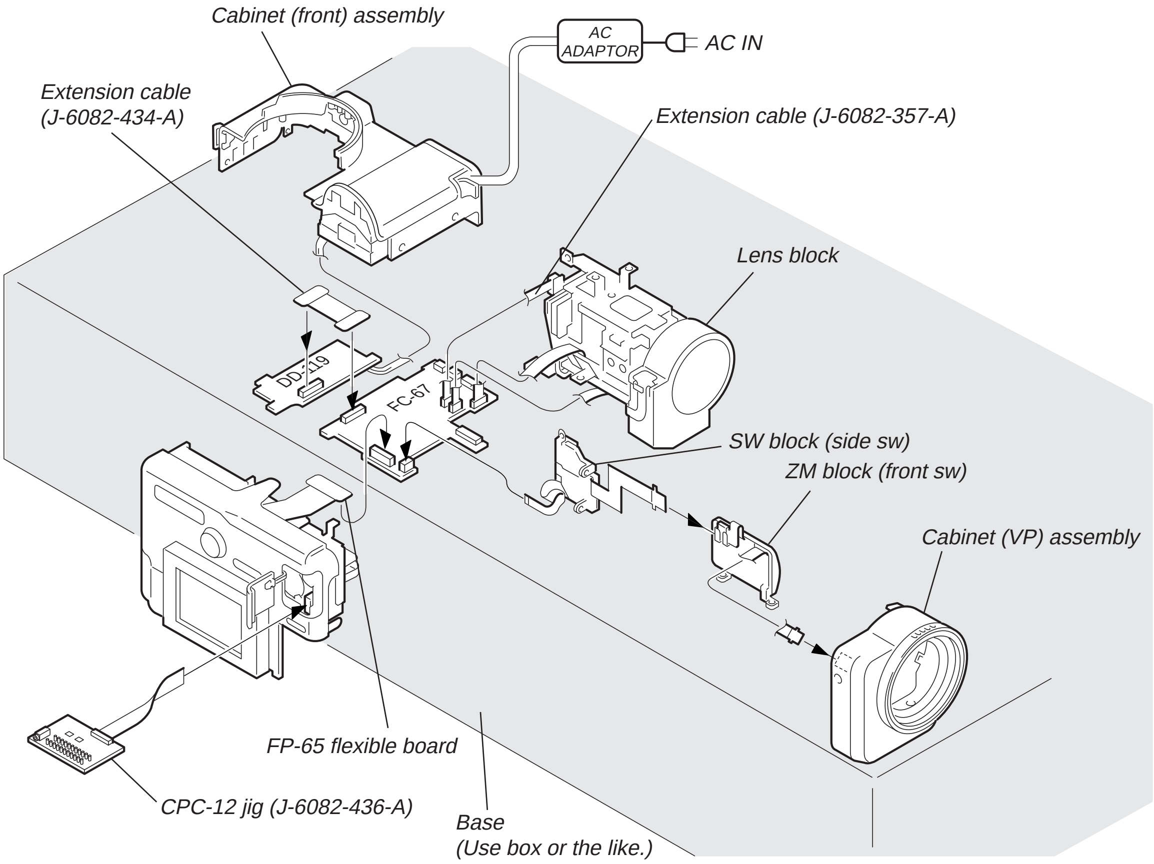


Be sure to read “Note on the CCD imager replacement” on page 4-8 when changing the CCD Imager.

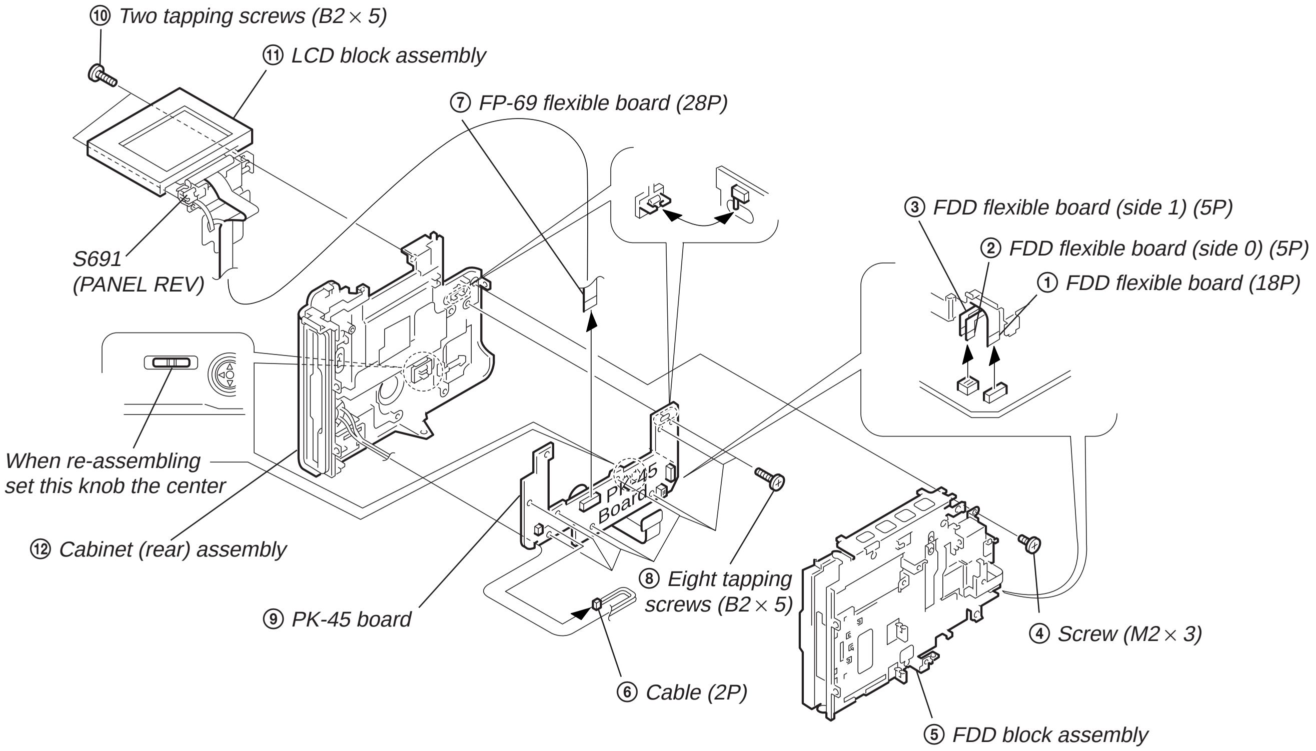
2-8. FC-67 BOARD, DD-119 BOARD



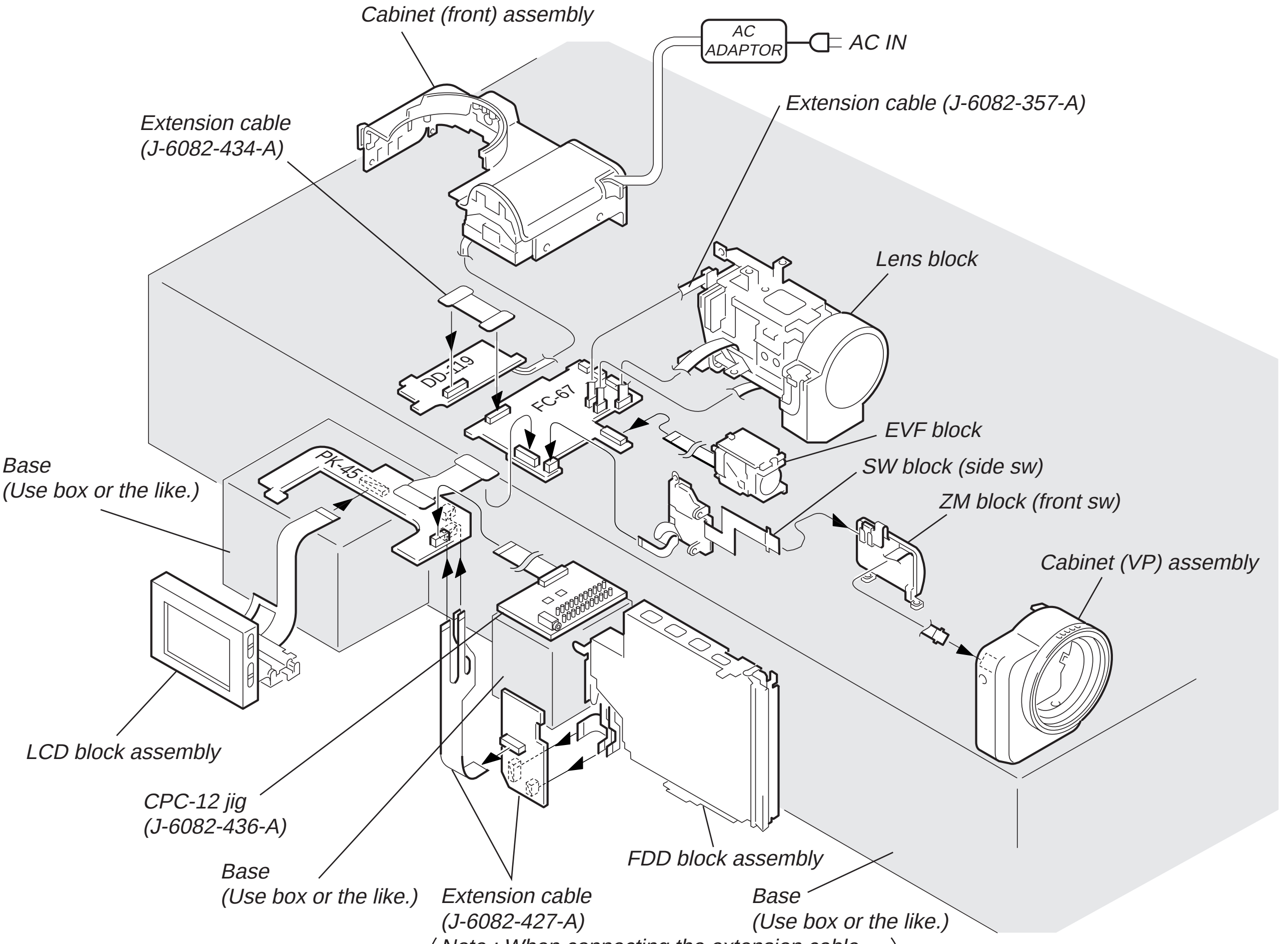
[MAIN (FC-67) BOARD CHECK SERVICE POSITION]



2-9. PK-45 BOARD, FDD BLOCK ASSEMBLY

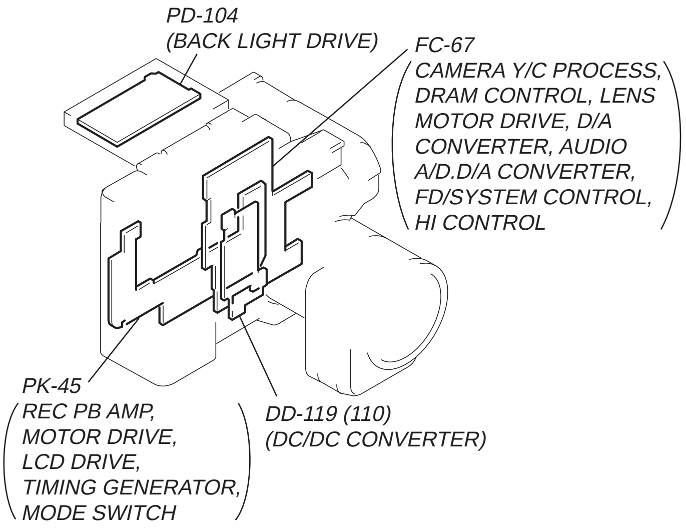


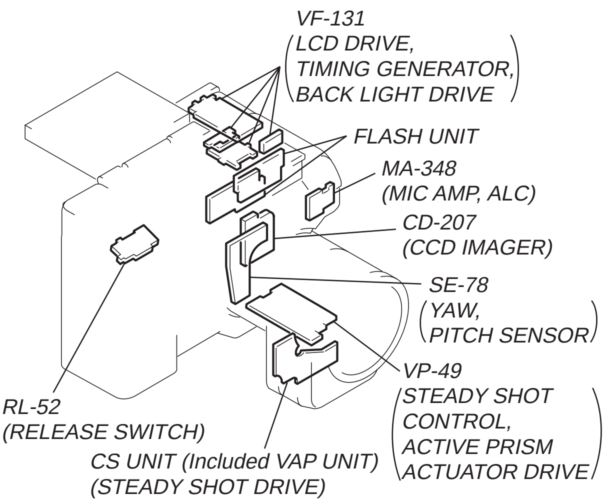
[OVERALL CHECK SERVICE POSITION]



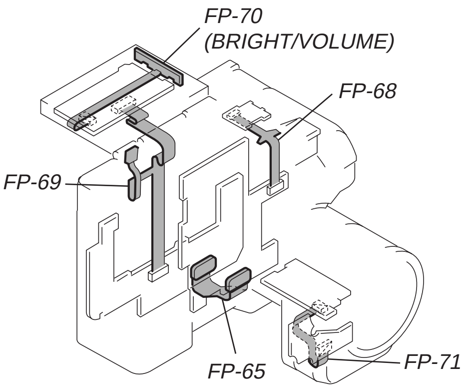
Note : When connecting the extension cable, refer to "1. Connection between the FDD unit and PK-45 board" of page 6.

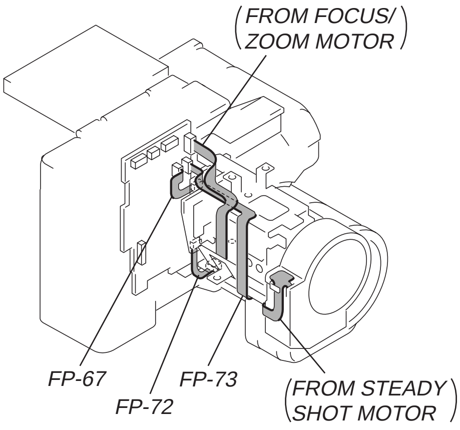
2-10. CIRCUIT BOARDS LOCATION

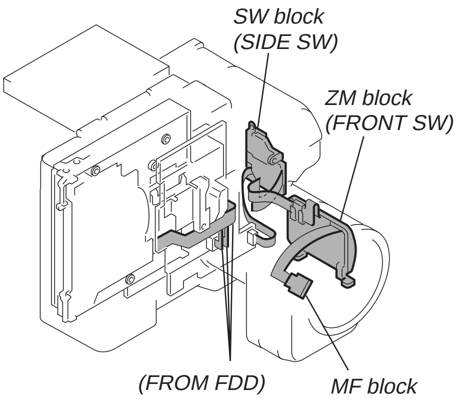




2-11. FLEXIBLE BOARDS LOCATION

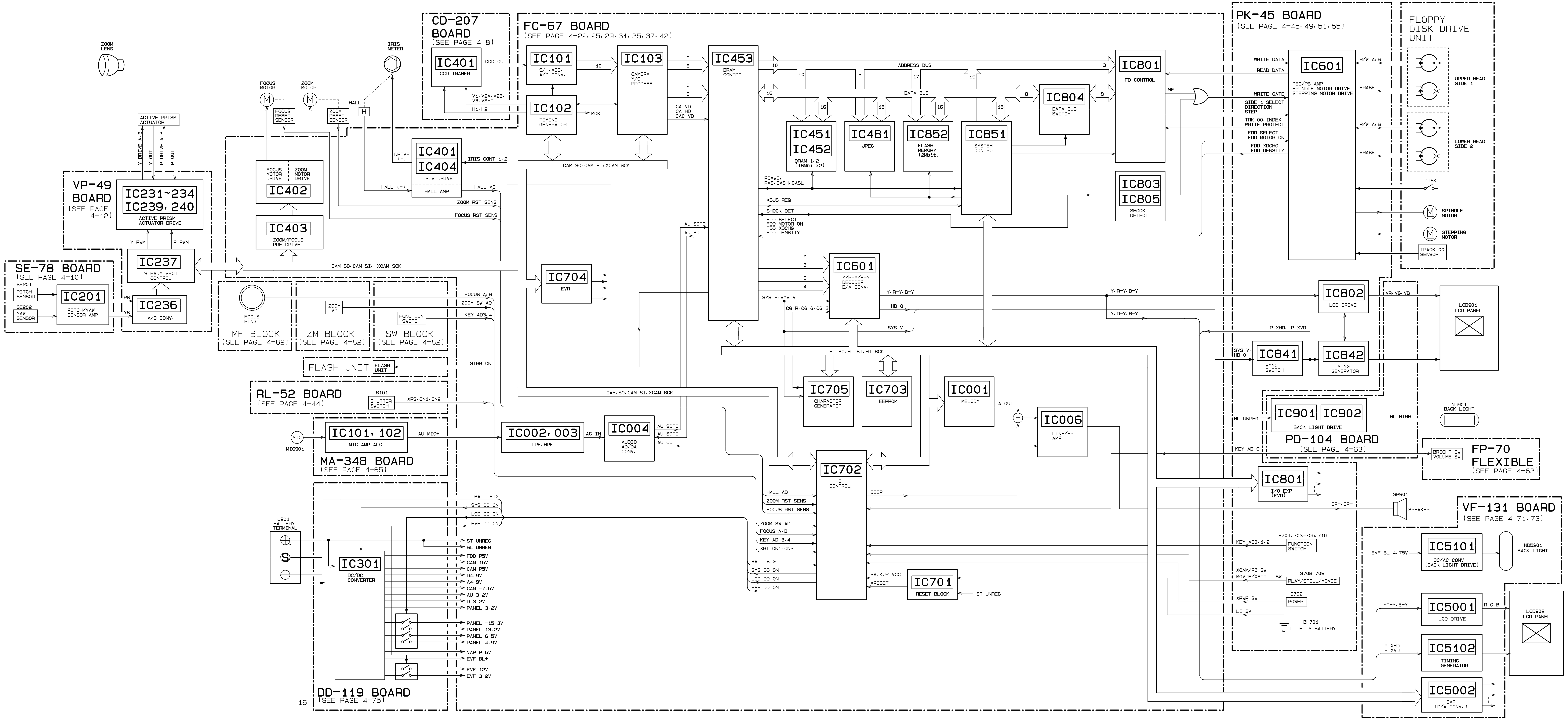




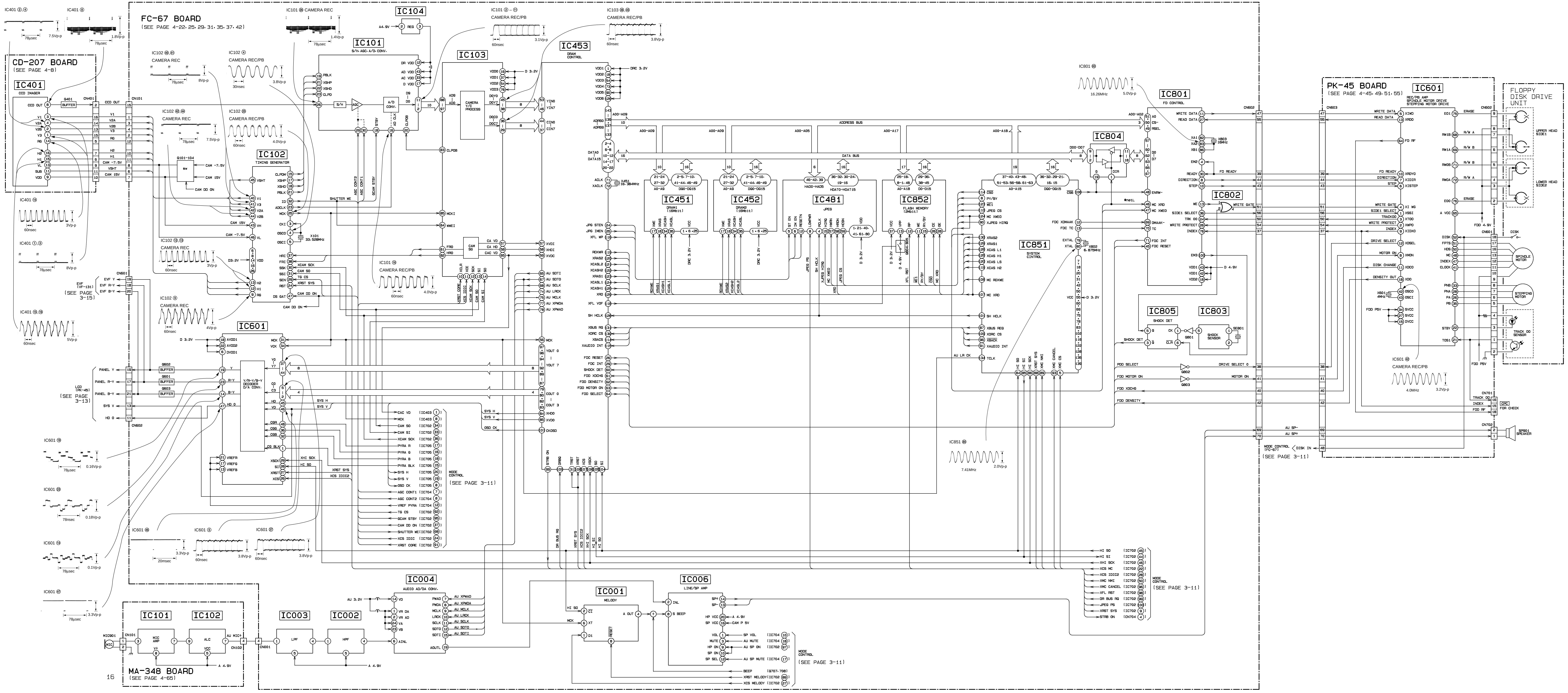


SECTION 3
BLOCK DIAGRAMS

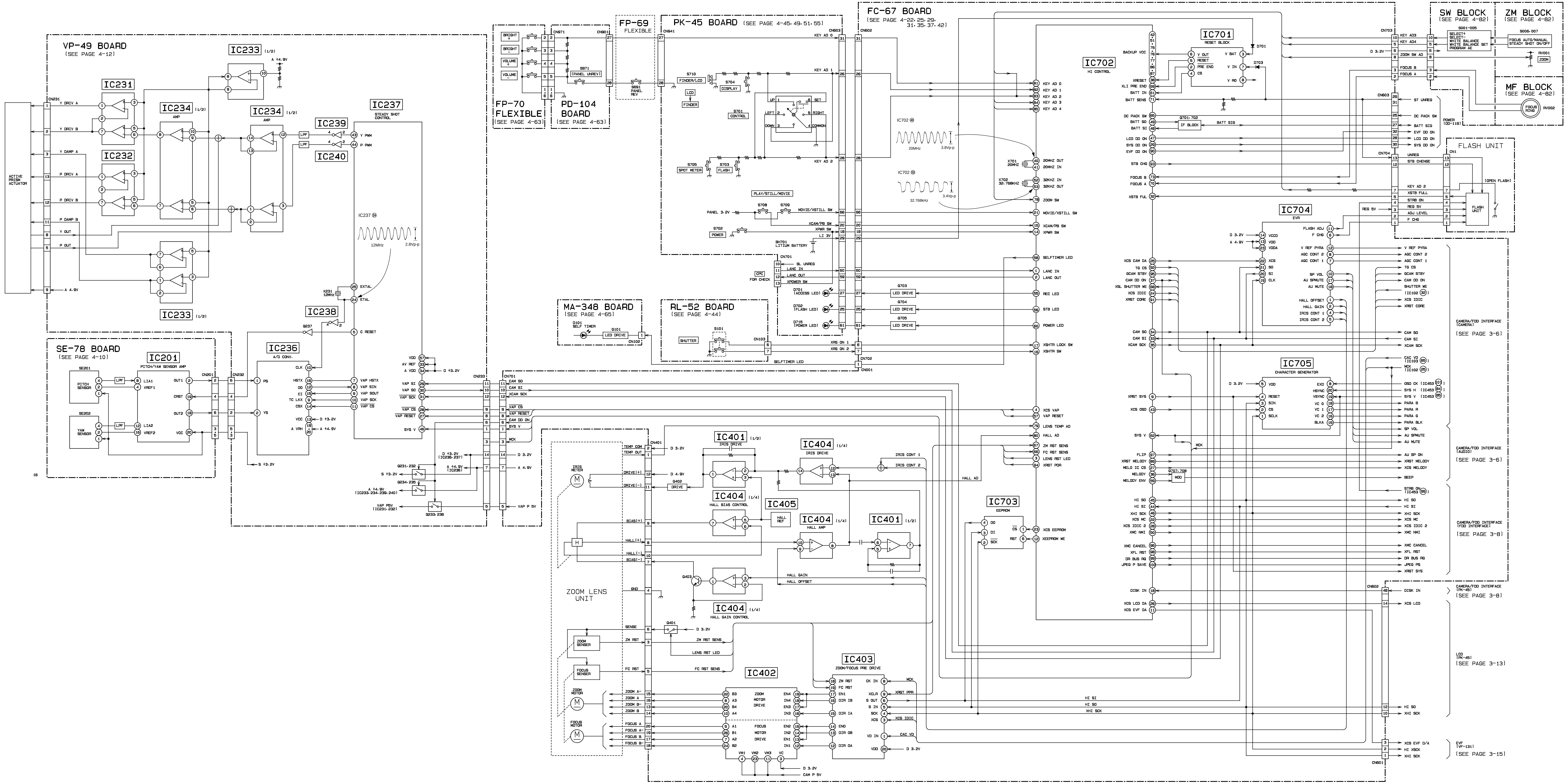
3-1. OVERALL BLOCK DIAGRAM



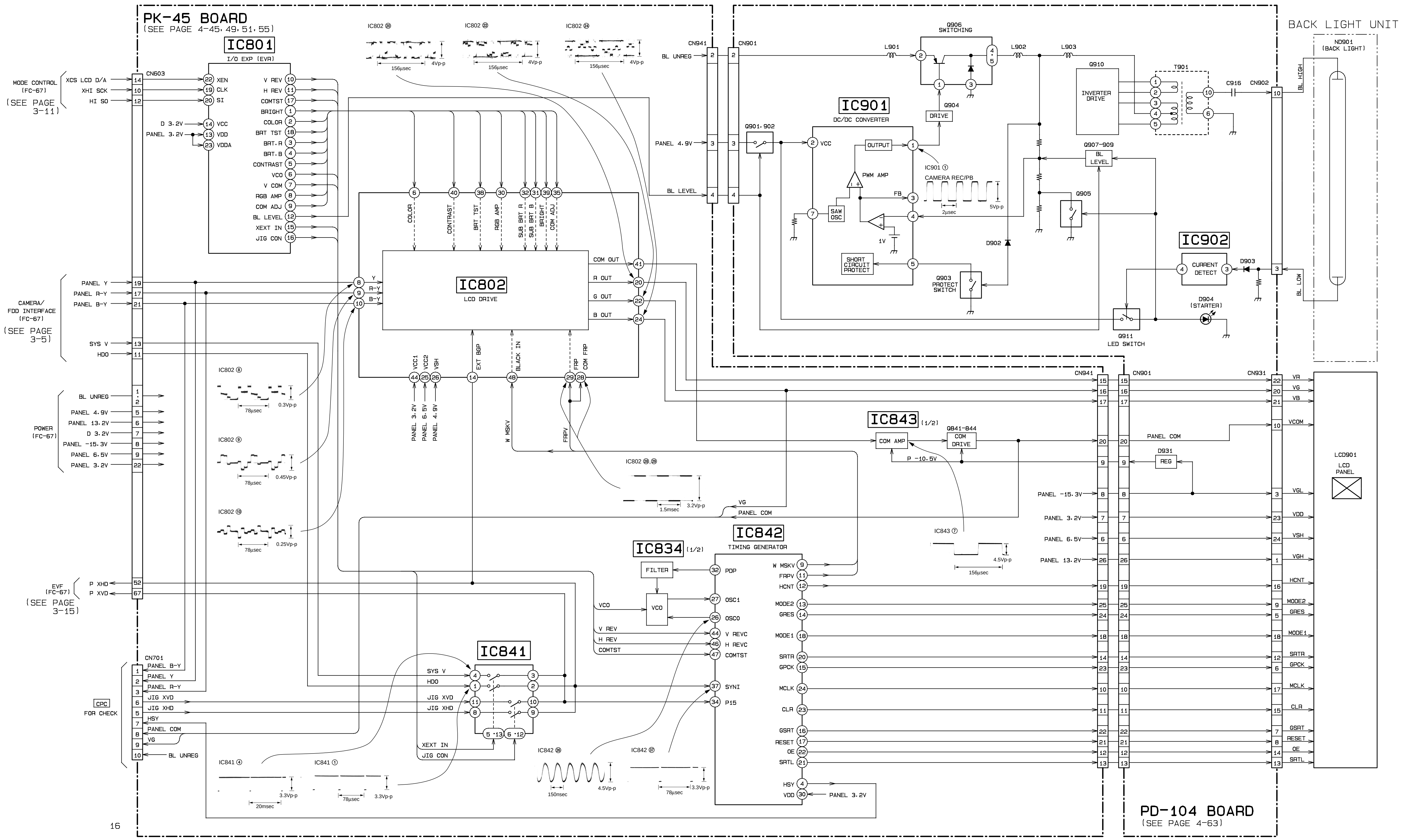
3-2. CAMERA/FDD INTERFACE BLOCK DIAGRAM



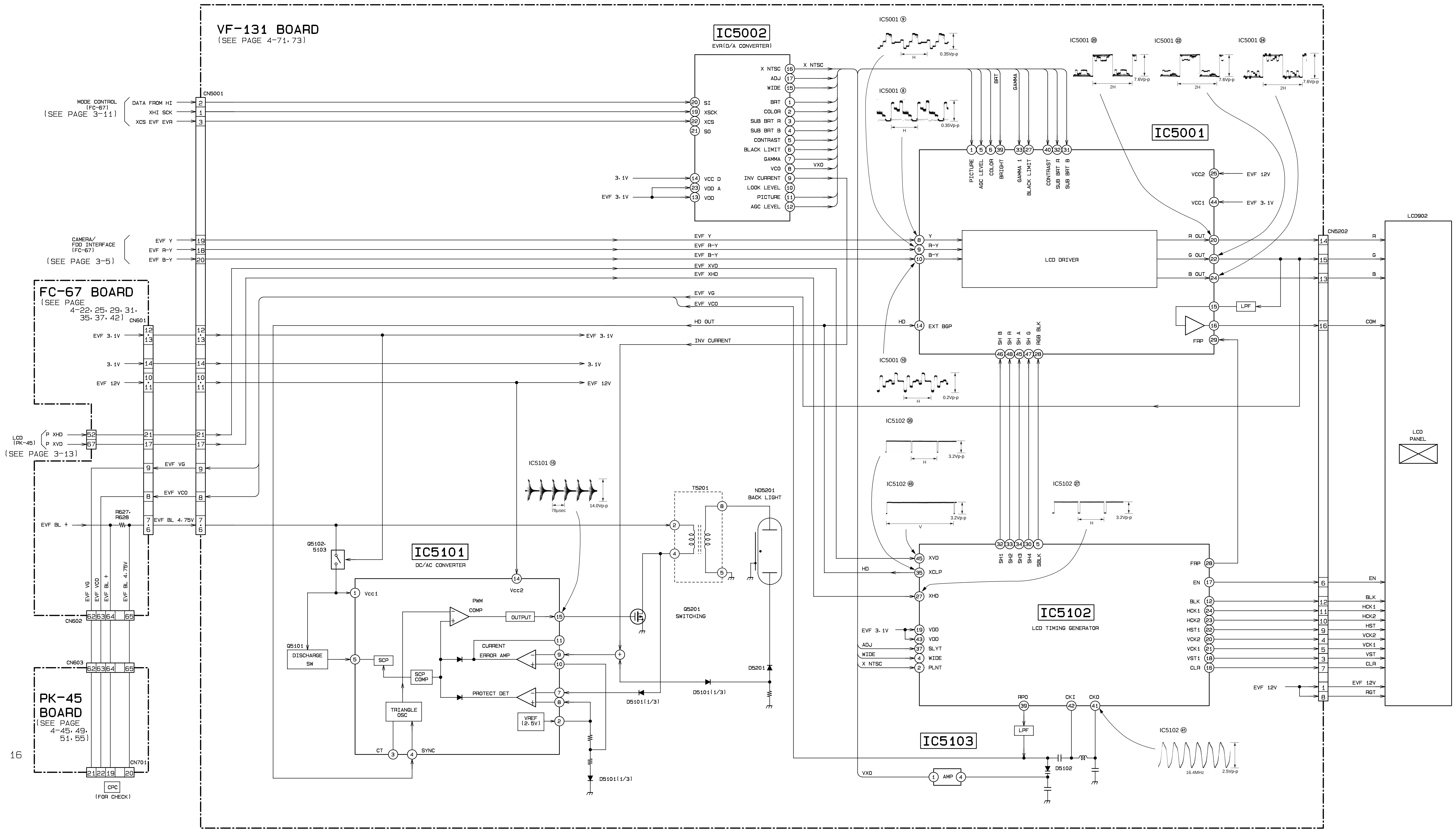
3-3. MODE CONTROL BLOCK DIAGRAM



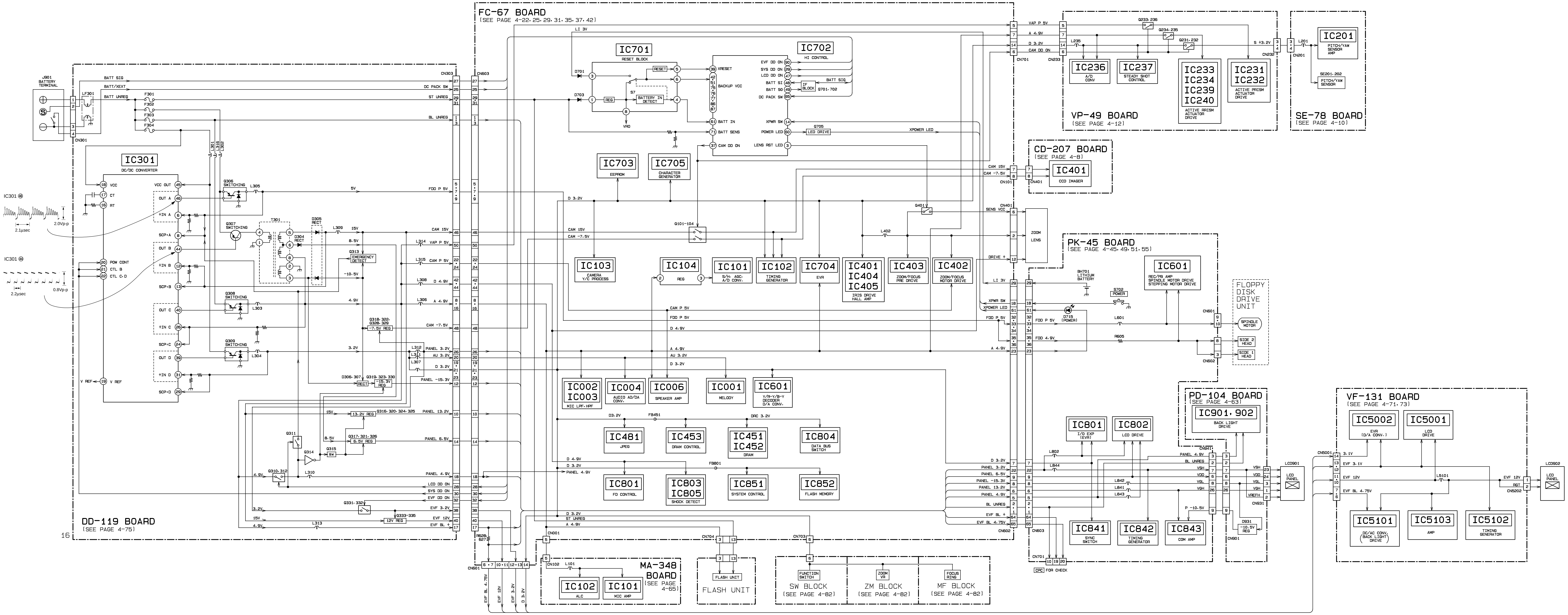
3-4. LCD BLOCK DIAGRAM



3-5. COLOR EVF BLOCK DIAGRAM



3-6. POWER BLOCK DIAGRAM



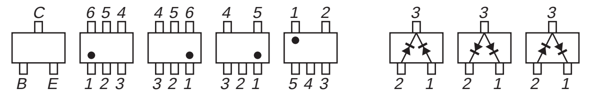
SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For printed wiring boards)
- ░░░░: Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.



(For schematic diagrams)
- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10W unless otherwise noted. kΩ=1000Ω, MΩ=1000kΩ.
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

Example	C541	L452
	22U	10UH
	TA A	2520

Kinds of capacitor
Temperature characteristics
External dimensions (mm)

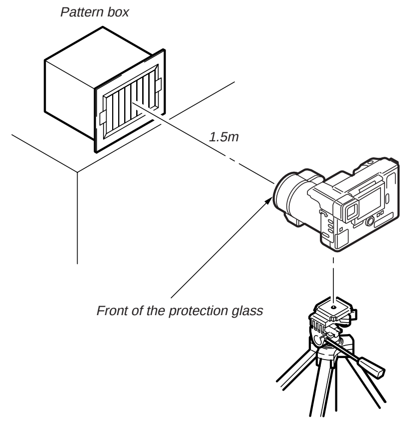
- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used. In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination. Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- ─[WW]─ : non flammable resistor
- ─WW∿─ : fusible resistor
- ▭ : panel designation
- ━━ : B+ Line *
- ▬ ▬ ▬ : B– Line *
- ⇨ : IN/OUT direction of (+,–) B LINE. *
- ▭ : adjustment for repair. *
- Circled numbers refer to waveforms. *

* Indicated by the color red.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(Measuring conditions voltage and waveform)
- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms. * (VOM of DC 10 MW input impedance is used.).
- Voltage values change depending upon input impedance of VOM used.) *

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

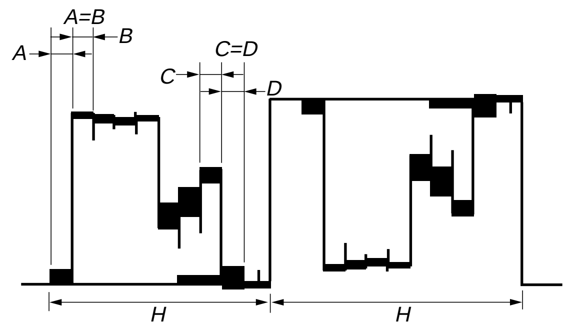


Fig. a (CPC-12 jig TP-VG output waveform)

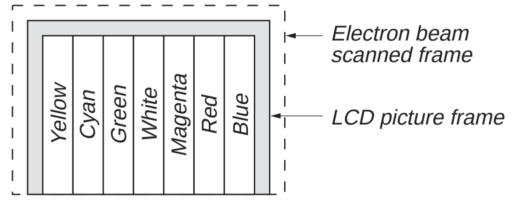


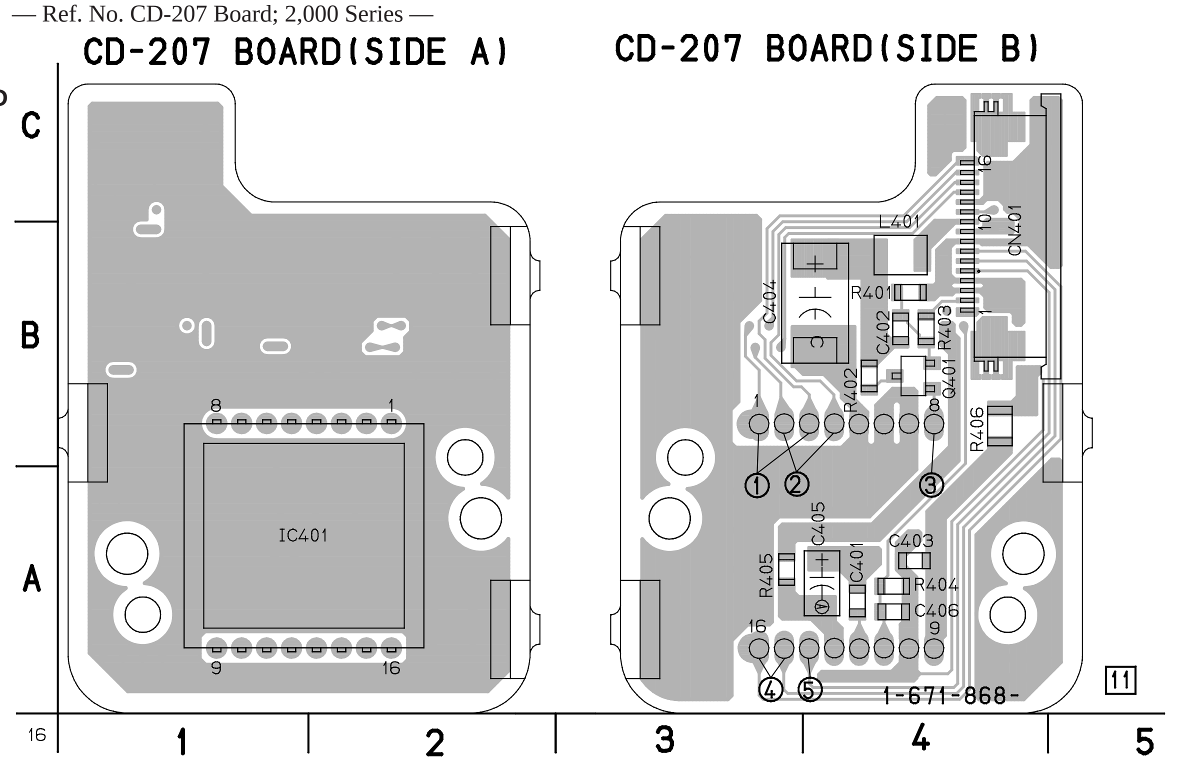
Fig.b (Picture on LCD)

When indicating parts by reference number, pleas include the board name.

CD-207 (CCD IMAGER) PRINTED WIRING BOARD
— Ref. No. CD-207 Board; 2,000 Series —

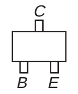
CD-207 BOARD

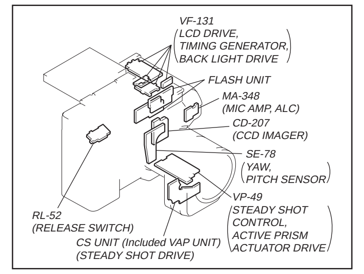
C401	A-4
C402	B-4
C403	A-4
C404	B-4
C405	A-4
C406	A-4
CN401	B-4
IC401	A-1
L401	B-4
Q401	B-4
R401	B-4
R402	B-4
R403	B-4
R404	A-4
R405	A-3
R406	B-4



For printed wiring boards
- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

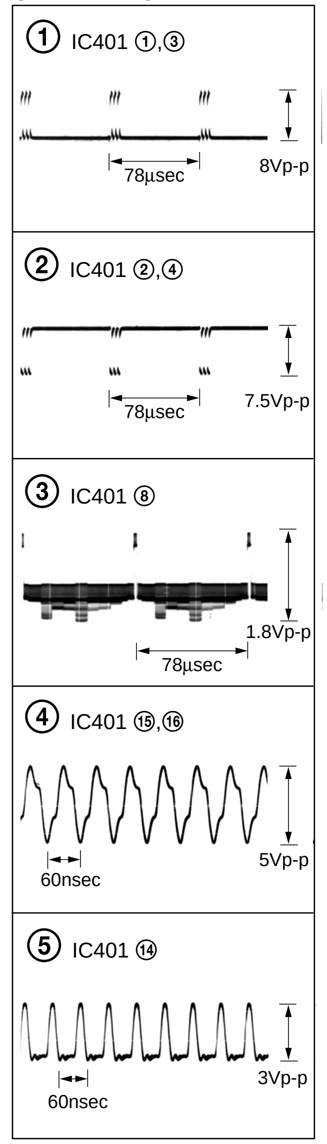
Transistor

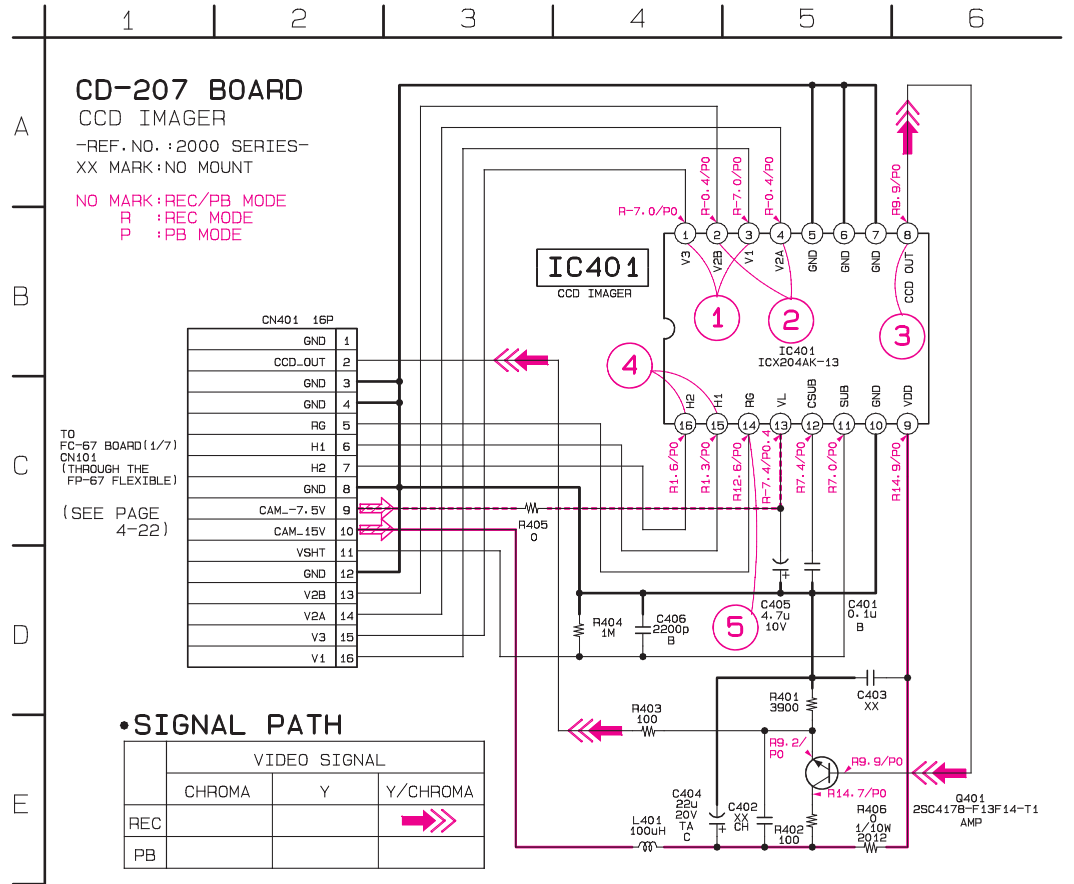




There are few cases that the part printed on this diagram isn't mounted in this model.

CD-207 BOARD
CAMERA REC



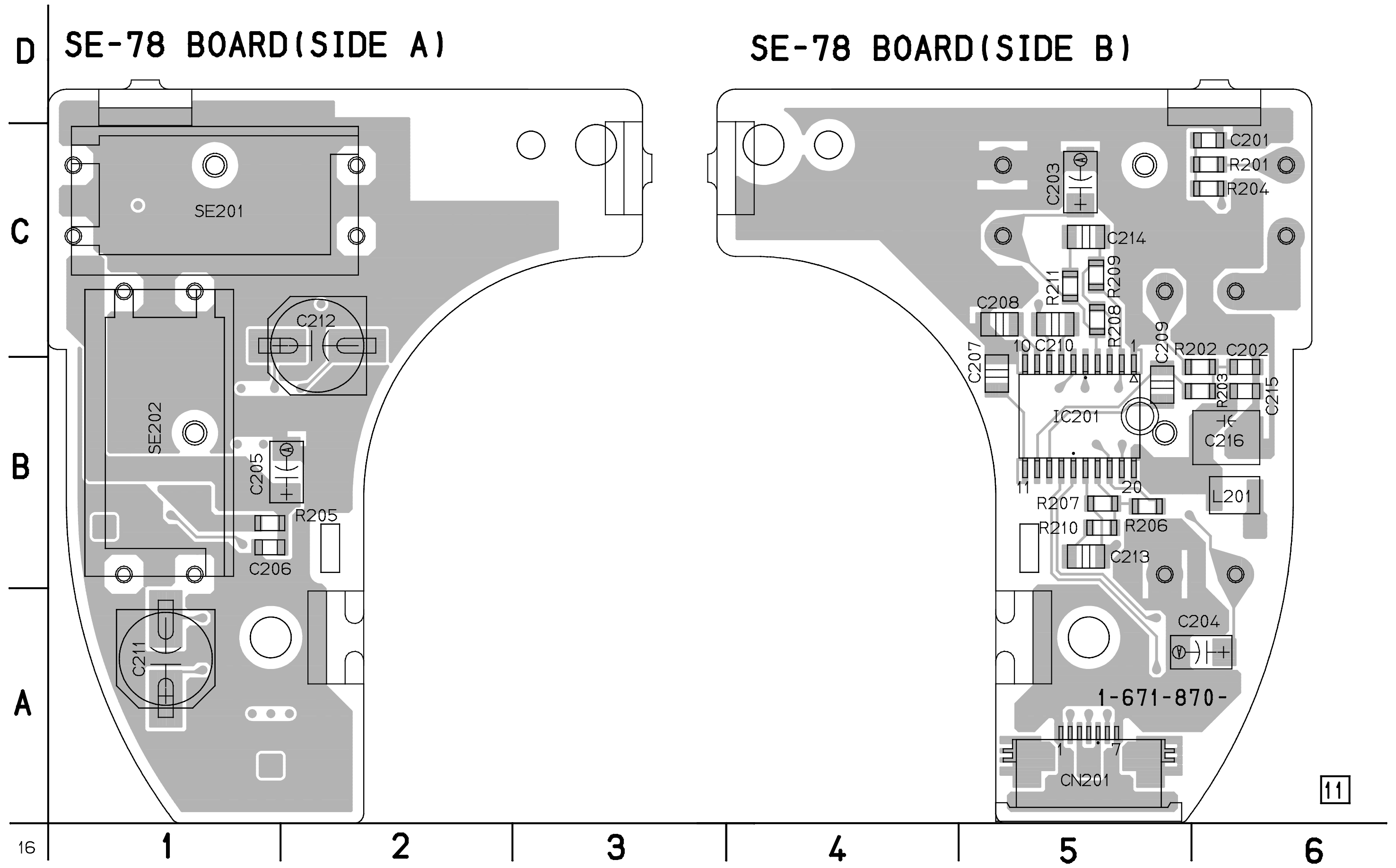


	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			⇒
PB			

Precautions Upon Replaching CCD imager
- The CD-207 board mounted as a repair part is not equipped with a CCD imager. When replaching this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electrictiy from its structure, handle it carefully like for the MOS IC. In addition, ensure that the receiver is not covered with dusts nor exposed to strog light.

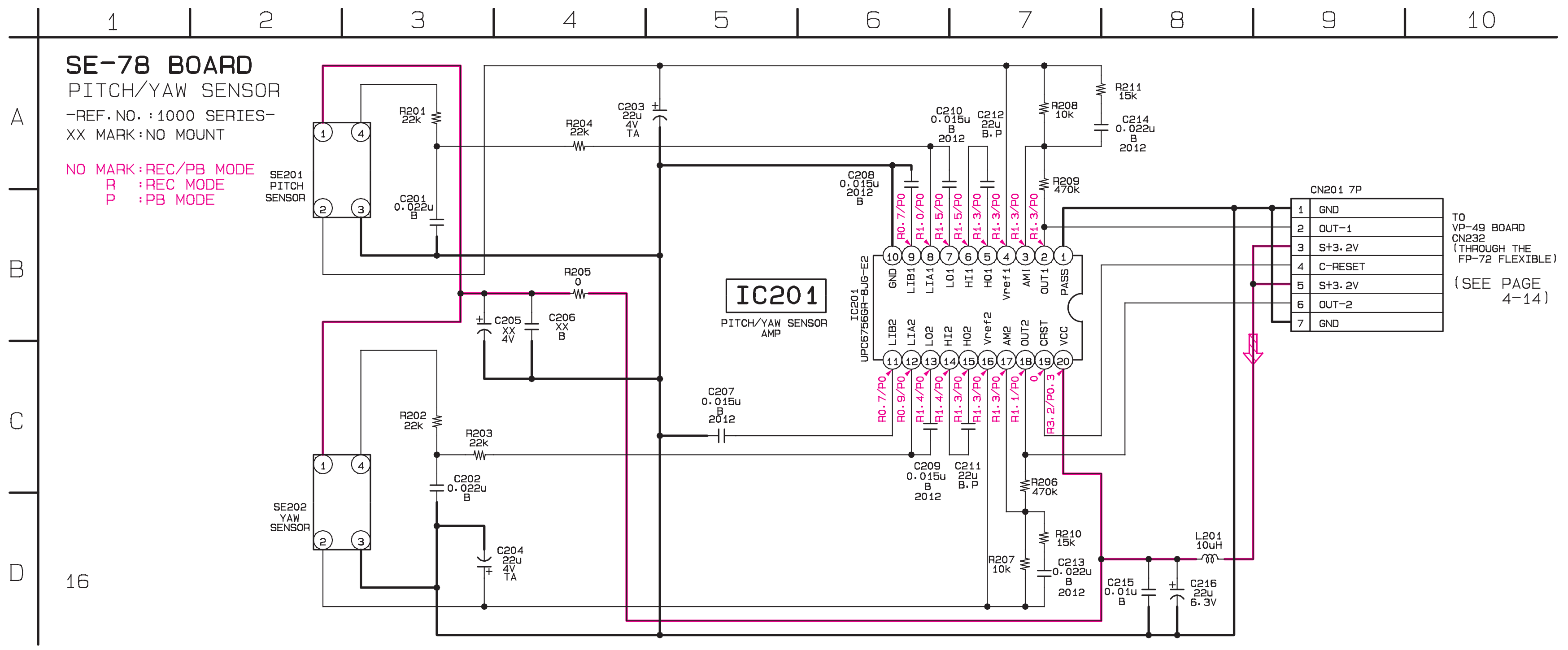
SE-78 (YAW, PITCH SENSOR) PRINTED WIRING BOARD

— Ref. No. SE-78 Board; 1,000 Series —



SE-78 BOARD

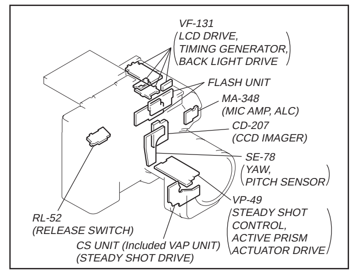
C201	C-5
C202	B-6
C203	C-5
C204	A-5
C205	B-2
C206	B-1
C207	B-5
C208	C-5
C209	B-5
C210	C-5
C211	A-1
C212	C-2
C213	B-5
C214	C-5
C215	B-6
C216	B-6
CN201	A-5
IC201	B-5
L201	B-6
R201	C-5
R202	B-5
R203	B-5
R204	C-5
R205	B-1
R206	B-5
R207	B-5
R208	C-5
R209	C-5
R210	B-5
R211	C-5
SE201	C-1
SE202	B-1



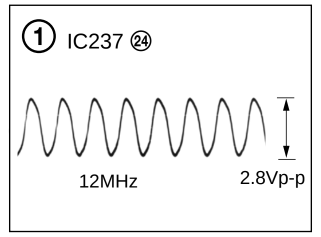
For printed wiring boards

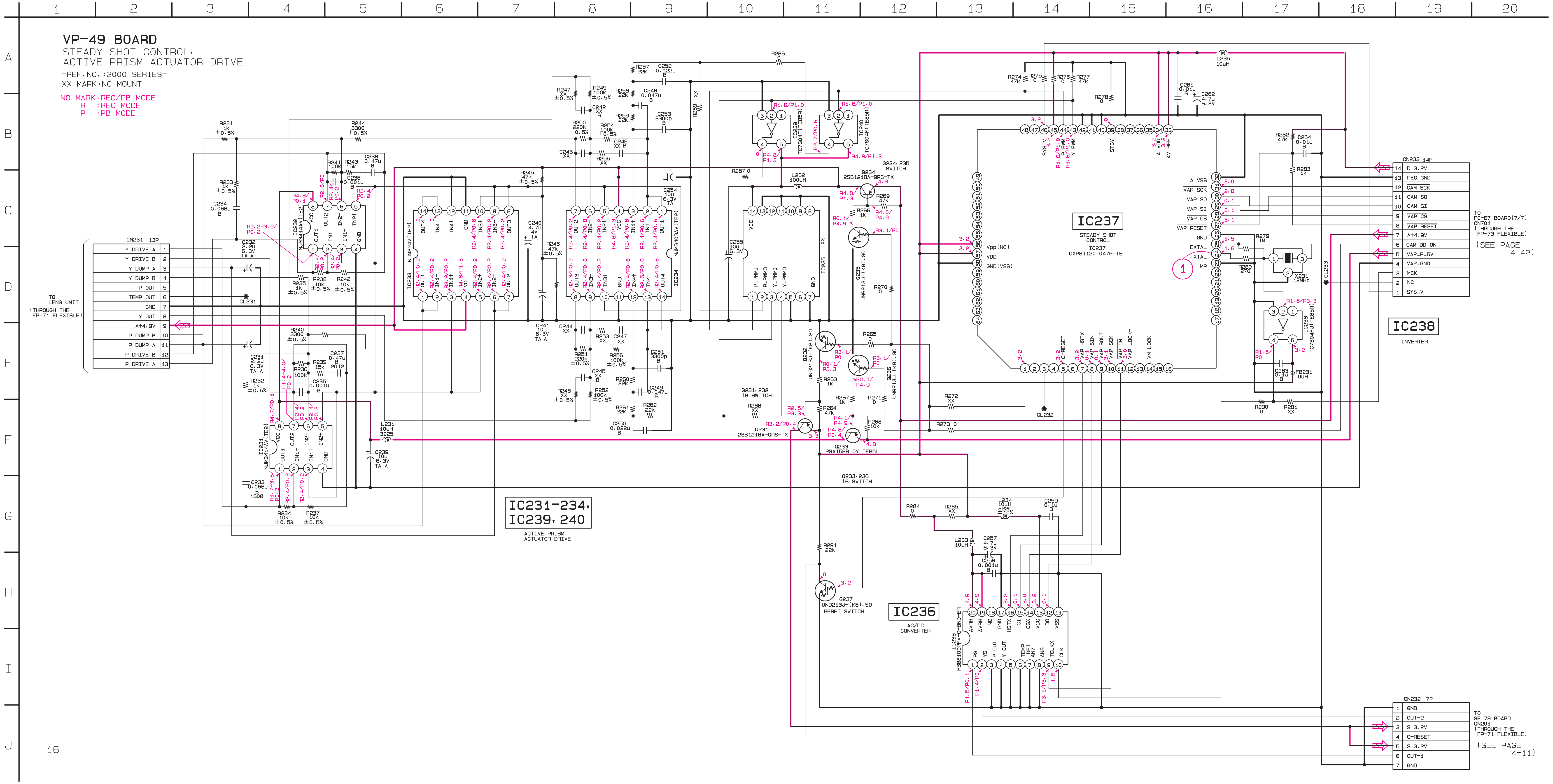
- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.

There are few cases that the part printed on this diagram isn't mounted in this model.



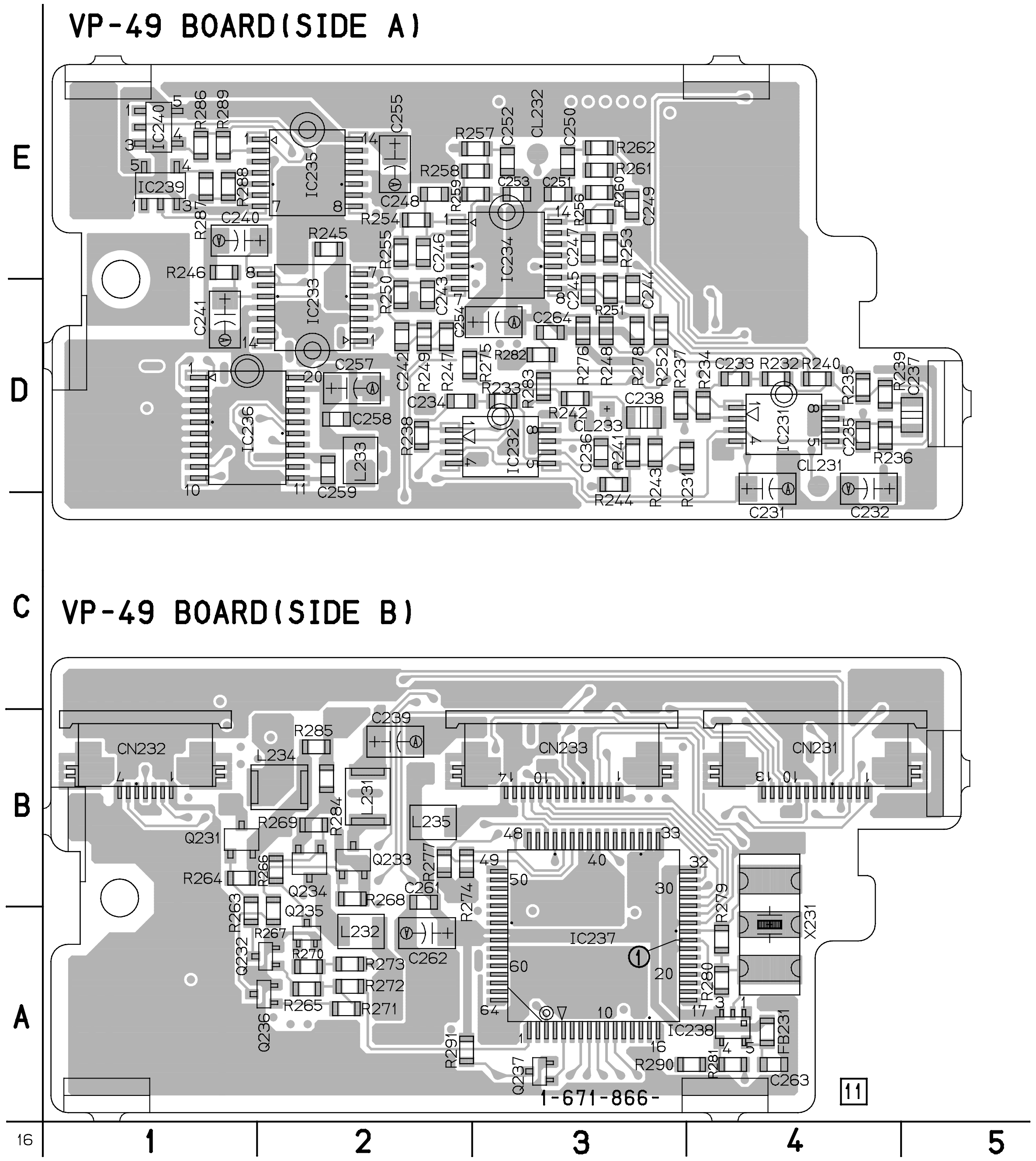
VP-49 BOARD


① IC237 ㉔
12MHz
2.8Vp-p


VP-49 BOARD
STEADY SHOT CONTROL,
ACTIVE PRISM ACTUATOR DRIVE
-REF.NO.:2000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC237
STEADY SHOT CONTROL
IC238
INVERTER
IC231-234,
IC239,240
ACTIVE PRISM ACTUATOR DRIVE
IC236
AC/DC CONVERTER
TO LENS UNIT (THROUGH THE FP-71 FLEXIBLE)
TO FC-67 BOARD(7/7) CN701 (THROUGH THE FP-73 FLEXIBLE) (SEE PAGE 4-42)
TO SE-78 BOARD CN201 (THROUGH THE FP-71 FLEXIBLE) (SEE PAGE 4-11)

VP-49 (STEADY SHOT CONTROL, ACTIVE PRISM ACTUATOR DRIVE) PRINTED WIRING BOARD

— Ref. No. VP-49 Board; 2,000 Series —



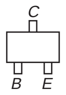
VP-49 BOARD

C231	C-4	IC234	D-3	R253	D-3
C232	C-4	IC235	E-2	R254	D-2
C234	D-2	IC236	C-1	R255	D-2
C235	C-4	IC237	A-3	R256	D-3
C236	C-3	IC239	E-1	R257	E-3
C237	C-5	IC240	E-1	R258	E-3
C238	C-3			R259	D-3
C238	D-4	L231	B-2	R260	D-3
C239	B-2	L232	A-2	R261	E-3
C240	D-1	L233	C-2	R262	E-3
C241	D-1	L234	B-2	R263	A-1
C242	D-2	L235	B-2	R264	B-1
C243	D-2			R265	A-2
C244	D-3	Q231	B-1	R266	B-2
C245	D-3	Q232	A-2	R267	A-2
C246	D-2	Q233	B-2	R268	B-2
C247	D-3	Q234	B-2	R269	B-2
C248	D-2	Q235	A-2	R270	A-2
C249	D-3	Q236	A-2	R271	A-2
C250	E-3	Q237	A-3	R272	A-2
C251	D-3			R273	A-2
C252	E-3	R231	C-3	R274	B-2
C253	D-3	R232	D-4	R275	D-2
C254	D-3	R234	D-4	R276	D-3
C255	E-2	R235	D-3	R277	B-2
C257	D-2	R235	D-4	R278	D-3
C258	C-2	R236	C-2	R279	A-4
C259	C-2	R236	C-4	R280	A-4
C261	B-2	R237	D-3	R281	A-4
C262	A-2	R239	D-4	R282	D-3
C263	A-4	R240	D-4	R283	D-3
C264	D-3	R241	C-3	R284	B-2
		R242	D-3	R285	B-2
CN231	B-4	R243	C-3	R286	E-1
CN232	B-1	R244	C-3	R287	E-1
CN233	B-3	R245	D-2	R288	E-1
		R246	D-1	R289	E-1
FB231	A-4	R247	D-2	R290	A-4
		R248	D-3	R291	A-2
IC231	C-4	R249	D-2		
IC232	C-3	R250	D-2	X231	A-4
IC233	A-4	R251	D-3		
IC233	D-2	R252	D-3		

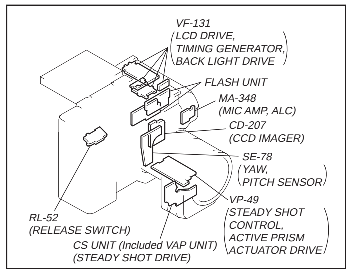
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor



There are few cases that the part printed on this diagram isn't mounted in this model.

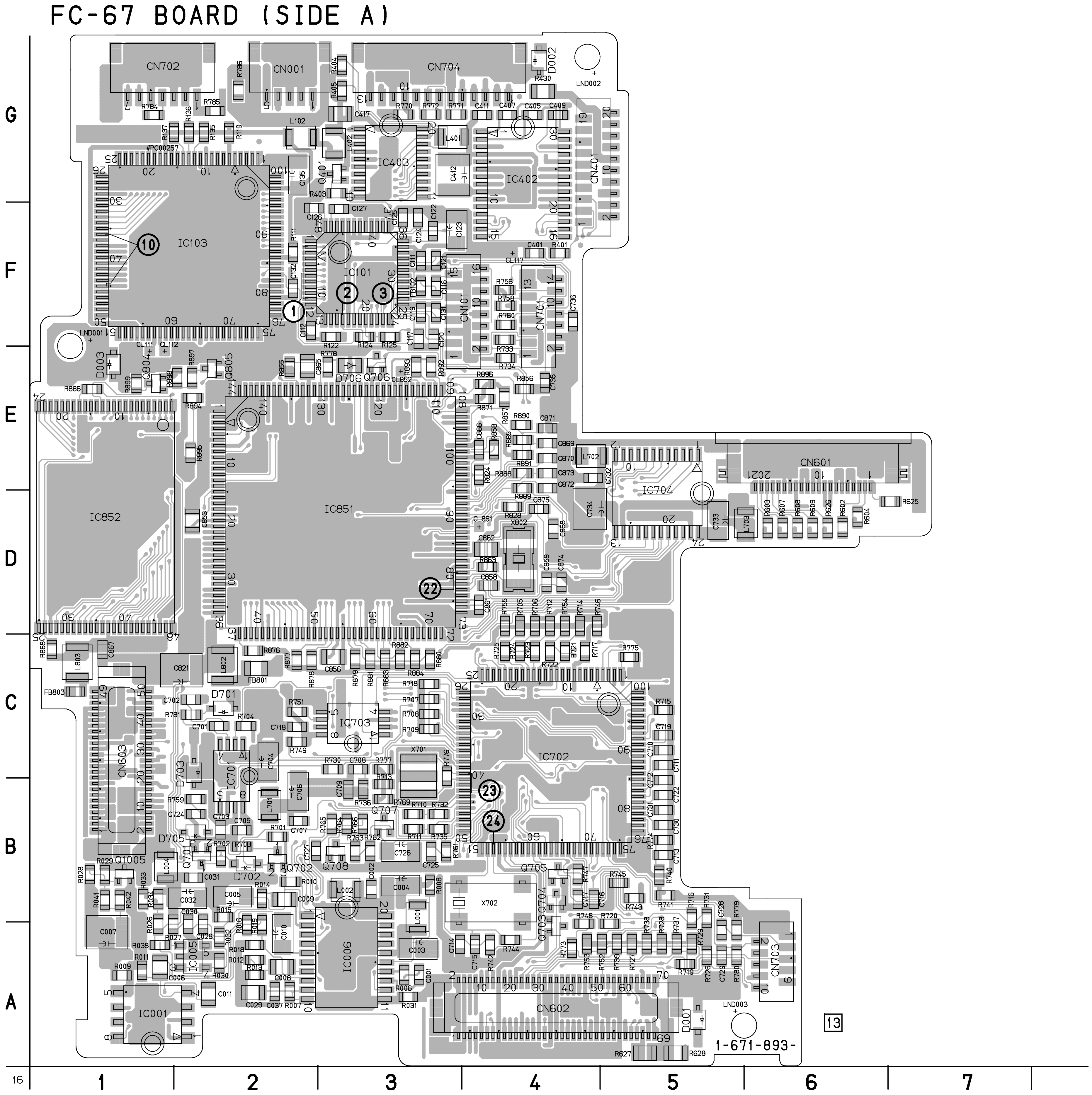


FC-67 (CAMERA Y/C PROCESS, DRAM CONTROL, LENS MOTOR DRIVE, D/A CONVERTER, AUDIO A/D.D/A CONVERTER, FD/SYSTEM CONTROL, HI CONTROL)
PRINTED WIRING BOARD

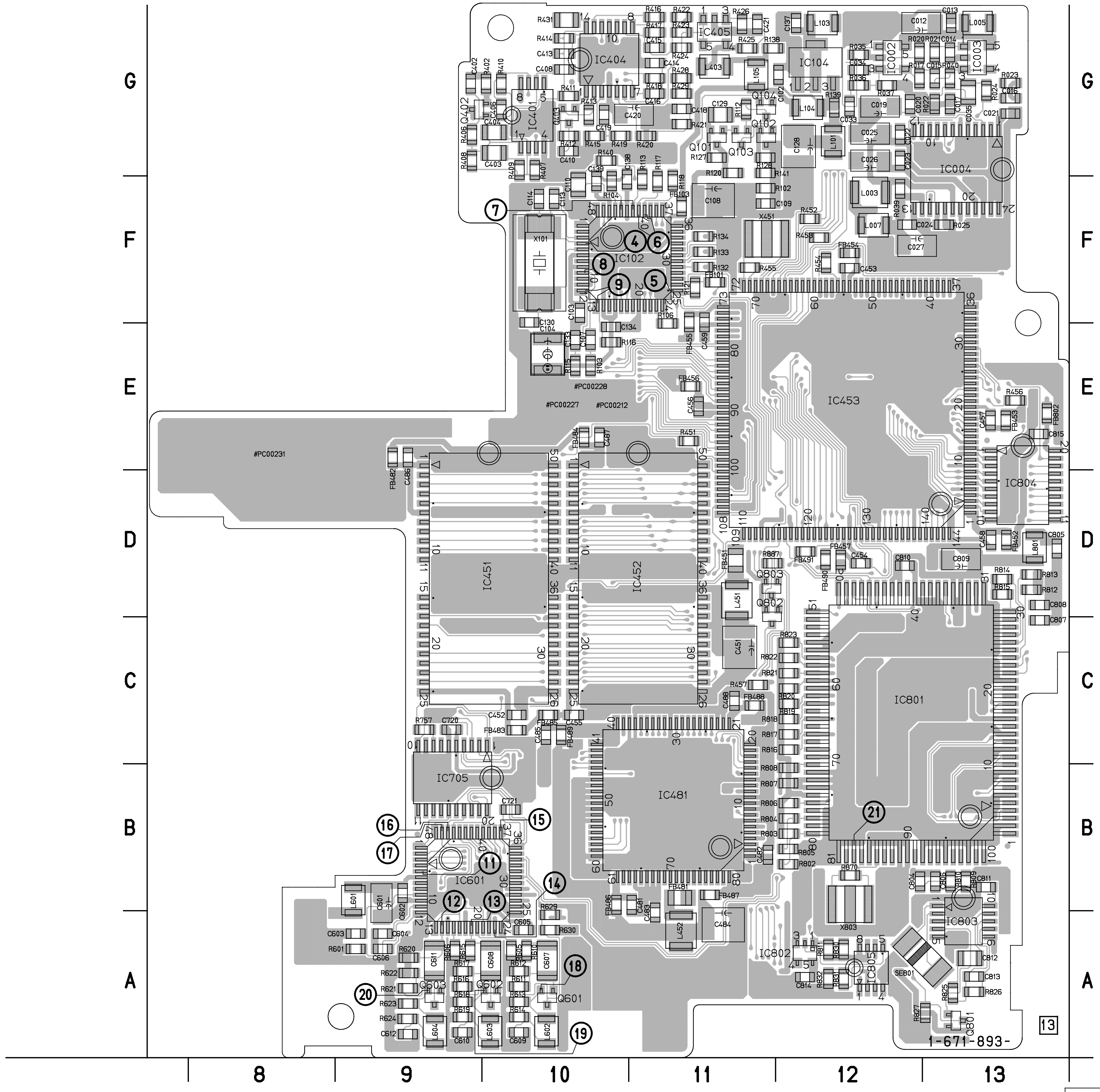
— Ref. No. FC-67 Board; 10,000 Series —

FC-67 BOARD (SIDE A)

C001	A-3	C865	E-2	R012	A-2	R740	B-5
C002	B-3	C866	E-4	R013	A-2	R741	B-5
C003	A-3	C867	C-1	R014	B-2	R742	A-4
C004	B-3	C868	D-4	R015	B-2	R743	B-5
C005	B-2	C869	E-4	R016	B-2	R744	A-4
C006	A-1	C870	E-4	R018	A-2	R745	B-5
C007	A-1	C871	E-4	R019	B-2	R746	D-4
C008	A-2	C872	E-4	R026	B-1	R747	B-4
C009	B-2	C873	E-4	R027	B-2	R748	B-4
C010	A-2	C874	D-4	R028	B-1	R749	C-2
C011	A-2	C875	D-4	R029	B-1	R751	C-2
C028	B-2			R030	A-2	R752	A-4
C029	A-2	CN001	G-2	R031	A-3	R753	A-4
C030	B-2	CN101	F-4	R032	A-2	R754	D-4
C031	B-2	CN401	G-4	R033	B-1	R755	D-4
C032	B-2	CN601	E-6	R034	B-1	R756	F-4
C037	A-2	CN602	A-4	R038	A-1	R758	F-4
C111	F-3	CN603	C-1	R041	B-1	R759	B-2
C112	F-2	CN701	F-4	R042	B-1	R760	F-4
C116	F-3	CN702	G-1	R111	F-2	R761	B-3
C117	F-3	CN703	A-6	R119	G-2	R762	B-3
C119	F-3	CN704	G-3	R122	F-3	R763	B-3
C120	F-3			R124	F-3	R764	B-3
C121	F-3	D001	A-5	R125	F-3	R765	B-3
C122	F-3	D002	G-4	R135	G-2	R766	B-3
C123	F-3	D003	E-1	R136	G-2	R769	B-3
C124	F-3	D701	C-2	R137	G-2	R770	G-3
C125	F-3	D702	B-2	R401	F-4	R771	G-3
C126	G-2	D703	C-2	R403	G-3	R772	G-3
C127	G-3	D705	B-2	R404	G-3	R773	A-4
C131	F-3	D706	E-3	R405	G-3	R774	B-5
C132	F-2			R430	G-4	R775	C-5
C135	G-2	FB102	F-3	R602	D-6	R776	C-3
C401	F-4	FB801	C-2	R603	D-6	R777	C-3
C405	G-4	FB803	C-1	R604	D-6	R778	E-3
C407	G-4			R607	D-6	R779	A-5
C409	G-4	IC001	A-1	R608	D-6	R780	A-5
C411	G-4	IC005	A-2	R609	D-6	R781	C-2
C412	G-3	IC006	A-3	R625	D-6	R784	G-1
C417	G-3	IC101	F-3	R626	D-6	R785	G-2
C701	C-2	IC103	F-2	R627	A-5	R786	G-2
C702	C-2	IC402	G-4	R628	A-5	R824	E-4
C703	B-2	IC403	G-3	R701	B-2	R828	D-4
C704	C-2	IC701	C-2	R702	B-2	R855	E-2
C705	B-2	IC702	C-4	R704	C-2	R856	E-4
C706	B-2	IC703	C-3	R705	D-4	R857	E-4
C707	B-2	IC704	E-5	R706	D-4	R858	E-4
C708	C-3	IC851	D-3	R707	C-3	R863	D-4
C709	B-3	IC852	D-1	R708	C-3	R868	C-1
C710	C-5			R709	C-3	R871	E-4
C711	C-5	L001	B-3	R710	B-3	R876	C-2
C712	C-5	L002	B-3	R711	B-3	R877	C-2
C713	B-5	L004	B-1	R712	D-4	R878	C-2
C714	A-3	L102	G-2	R713	B-3	R879	C-3
C715	A-4	L401	G-3	R714	D-4	R880	C-3
C716	B-4	L402	G-3	R715	C-5	R881	C-3
C717	B-4	L701	B-2	R716	B-5	R882	C-3
C718	C-2	L702	E-4	R717	C-4	R883	C-3
C719	C-5	L703	D-5	R718	C-3	R884	C-3
C722	B-5	L802	C-2	R719	A-5	R885	E-4
C724	B-2	L803	C-1	R720	B-5	R886	E-1
C725	B-3			R721	C-4	R888	E-4
C726	B-3	Q401	G-3	R722	C-4	R889	E-4
C727	B-2	Q701	B-2	R723	C-4	R890	E-4
C728	A-5	Q702	B-2	R724	C-4	R891	E-4
C729	A-5	Q703	A-4	R725	C-4	R892	E-3
C730	B-5	Q704	B-4	R726	A-5	R893	E-3
C731	B-5	Q705	B-4	R727	A-5	R894	E-2
C732	E-4	Q706	E-3	R728	A-5	R895	E-2
C733	D-5	Q707	B-3	R729	A-5	R896	E-4
C734	D-4	Q708	B-3	R730	C-3	R897	E-2
C735	E-4	Q804	E-1	R731	B-5	R898	E-2
C736	F-4	Q1005	B-1	R732	B-3	R899	E-1
C821	C-2			R733	F-4		
C853	D-2	R006	A-3	R734	E-4	X701	C-3
C856	C-3	R007	A-2	R735	B-3	X702	B-4
C858	D-4	R008	B-3	R736	B-3	X802	D-4
C859	D-4	R009	A-1	R737	A-5		
C861	D-4	R010	B-2	R738	A-5		
C862	D-4	R011	A-1	R739	A-5		



FC-67 BOARD (SIDE B)



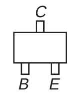
FC-67 BOARD (SIDE B)

C012	G-13	C607	A-10	L451	D-11	R423	G-11
C013	G-13	C608	A-10	L452	A-11	R424	G-11
C014	G-13	C609	A-10	L601	B-9	R425	G-11
C015	G-13	C610	A-9	L602	A-10	R426	G-11
C016	G-13	C611	A-9	L603	A-10	R428	G-11
C017	G-13	C612	A-9	L604	A-9	R429	G-11
C019	G-12	C720	C-9	L801	D-13	R431	G-10
C020	G-12	C721	B-10			R451	E-11
C021	G-13	C804	B-13	Q101	G-11	R452	F-12
C022	G-12	C805	D-13	Q102	G-11	R453	F-12
C023	G-12	C806	B-13	Q103	G-11	R454	F-12
C024	F-12	C807	D-13	Q104	G-11	R455	F-11
C025	G-12	C808	D-13	Q402	G-9	R456	E-13
C026	G-12	C809	D-13	Q403	G-10	R457	C-11
C027	F-12	C810	D-12	Q601	A-10	R601	A-9
C033	G-12	C811	B-13	Q602	A-10	R605	A-10
C034	G-12	C812	A-13	Q603	A-9	R606	A-9
C035	G-13	C813	A-13	Q801	A-13	R610	A-10
C102	G-11	C814	A-12	Q802	D-11	R611	A-10
C103	F-10	C815	E-13	Q803	D-11	R612	A-10
C104	E-10					R613	A-10
C107	E-10	FB101	F-11	R017	G-12	R614	A-10
C108	F-11	FB103	F-11	R020	G-13	R615	A-9
C109	F-11	FB451	D-11	R021	G-13	R616	A-9
C110	G-10	FB452	D-13	R022	G-13	R617	A-9
C113	F-10	FB453	E-13	R023	G-13	R618	A-9
C114	F-10	FB454	F-12	R024	G-13	R619	A-9
C128	G-12	FB455	F-11	R025	F-13	R620	A-9
C129	G-11	FB456	E-11	R035	G-12	R621	A-9
C130	F-10	FB457	D-12	R036	G-12	R622	A-9
C133	E-10	FB481	B-11	R037	G-12	R623	A-9
C134	E-10	FB482	E-9	R039	F-12	R624	A-9
C137	G-12	FB483	C-10	R040	G-13	R629	B-10
C138	G-10	FB484	E-10	R102	F-11	R630	A-10
C139	G-10	FB485	C-10	R103	E-10	R757	C-9
C402	G-9	FB486	B-10	R104	G-10	R802	B-12
C403	G-10	FB487	B-11	R106	F-11	R803	B-12
C404	G-10	FB488	C-11	R112	G-11	R804	B-12
C406	G-10	FB489	C-10	R113	G-11	R805	B-12
C408	G-10	FB490	D-12	R115	E-10	R806	B-12
C410	G-10	FB491	D-12	R116	E-10	R807	B-12
C413	G-10	FB802	E-13	R117	G-11	R808	C-12
C414	G-11			R118	G-11	R809	B-13
C415	G-11	IC002	G-12	R120	G-11	R810	B-13
C416	G-11	IC003	G-13	R121	F-11	R811	A-12
C418	G-11	IC004	G-13	R127	G-11	R812	D-13
C419	G-10	IC102	F-10	R128	G-11	R813	D-13
C420	G-10	IC104	G-12	R132	F-11	R814	D-13
C421	G-11	IC401	G-10	R133	F-11	R815	D-13
C451	C-11	IC404	G-10	R134	F-11	R816	C-12
C452	C-10	IC405	G-11	R138	G-11	R817	C-12
C453	F-12	IC451	D-10	R139	G-12	R818	C-12
C454	D-12	IC452	D-11	R140	G-10	R819	C-12
C455	C-10	IC453	E-12	R141	G-11	R820	C-12
C456	E-11	IC481	B-11	R402	G-9	R821	C-12
C457	E-13	IC601	B-9	R406	G-9	R822	C-12
C458	D-13	IC705	B-9	R407	G-10	R823	C-12
C459	F-11	IC801	C-12	R408	G-9	R825	A-13
C481	B-11	IC802	A-12	R409	G-10	R826	A-13
C482	B-11	IC803	A-13	R410	G-10	R827	A-13
C483	B-11	IC804	D-13	R411	G-10	R830	A-12
C484	A-11	IC805	A-12	R412	G-10	R831	A-12
C485	C-10	IC852	D-1	R413	G-10	R832	A-12
C486	E-9			R414	G-10	R870	B-12
C487	E-10	L003	F-12	R415	G-10	R887	D-11
C488	C-11	L005	G-13	R416	G-11		
C601	B-9	L007	F-12	R417	G-11	SE801	A-12
C602	B-9	L101	G-12	R418	G-11		
C603	A-9	L103	G-12	R419	G-10	X101	F-10
C604	A-9	L104	G-12	R420	G-11	X451	F-11
C605	A-10	L105	G-11	R421	G-11	X803	B-12
C606	A-9	L403	G-11	R422	G-11		

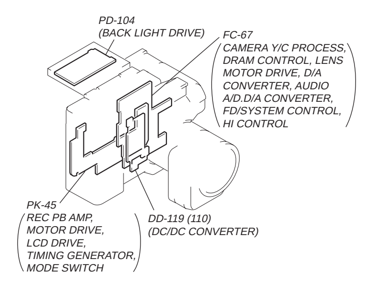
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor

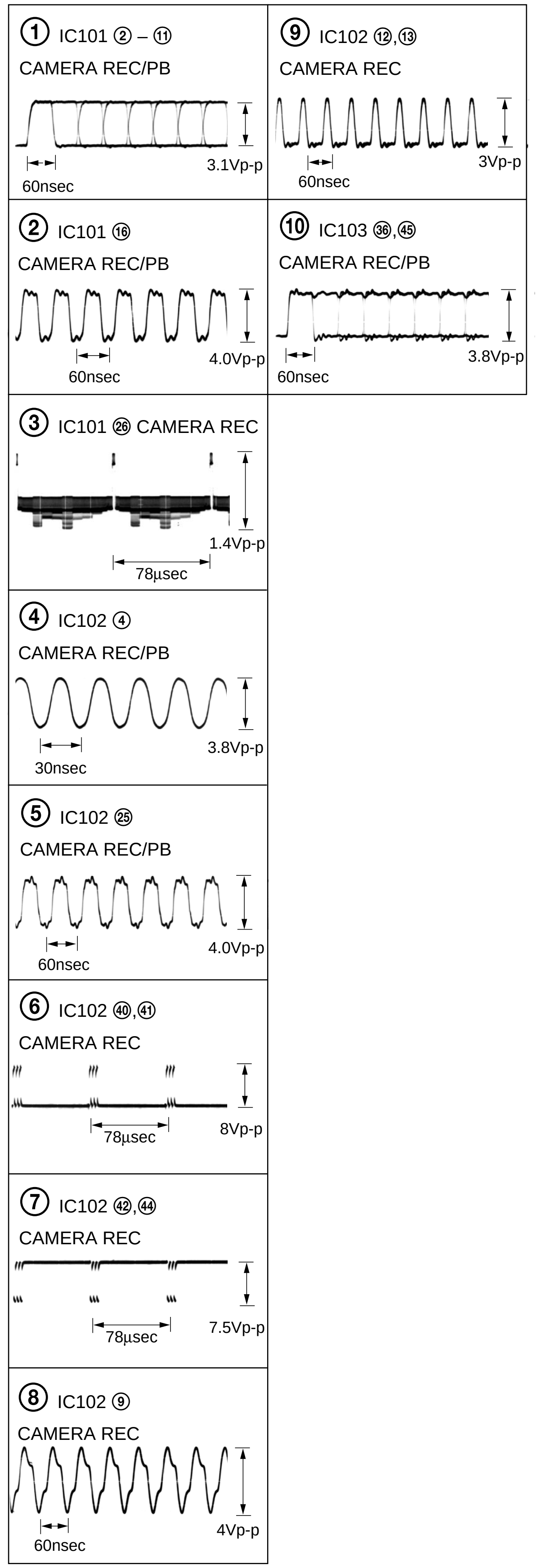


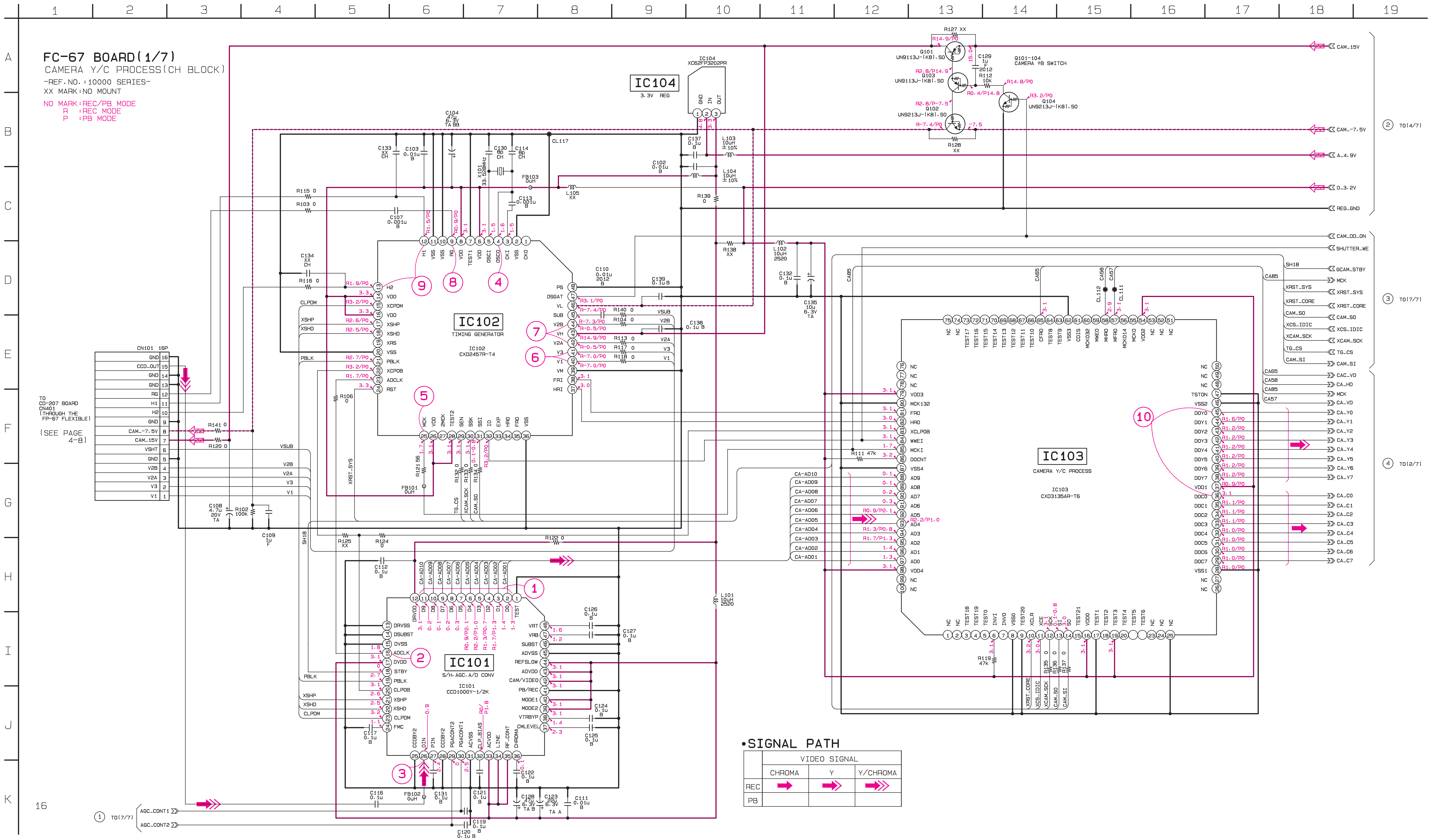
There are few cases that the part printed on this diagram isn't mounted in this model.



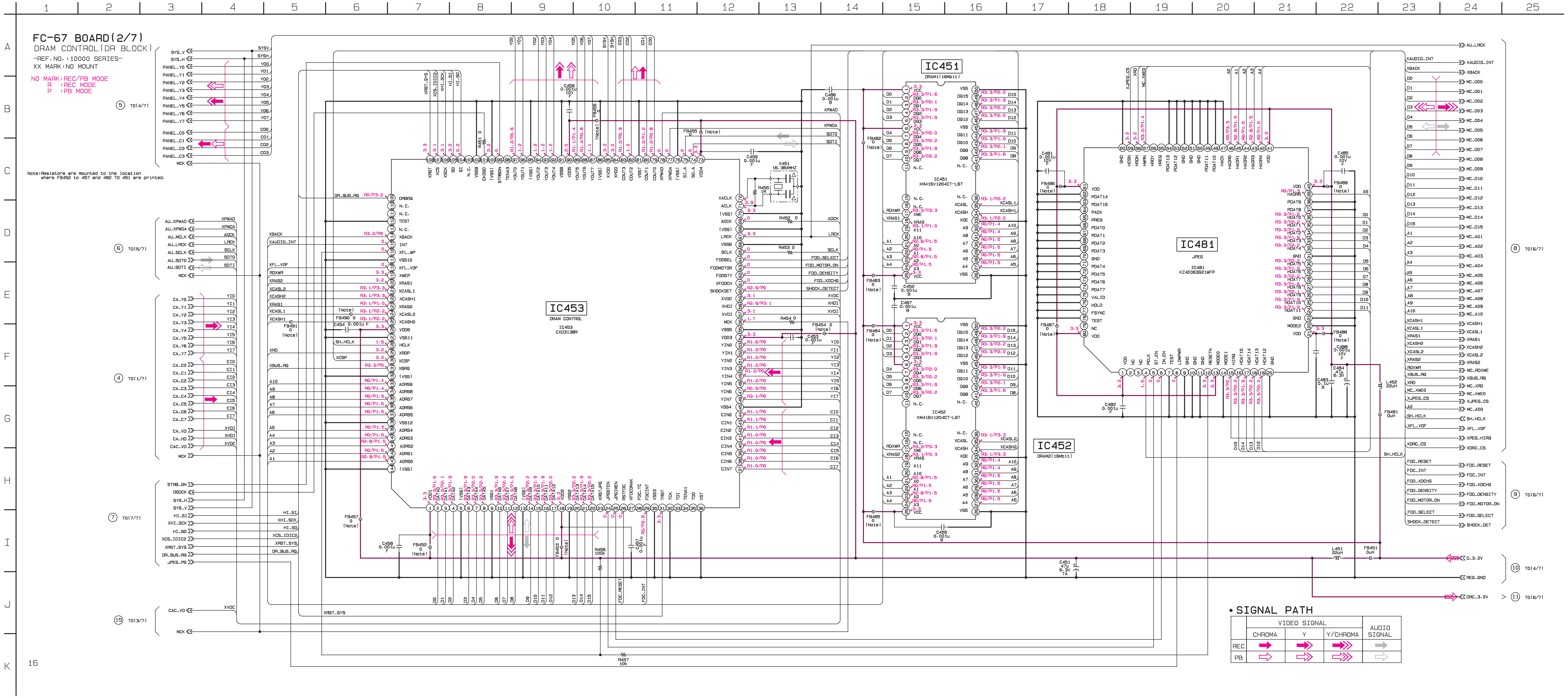
For schematic diagram
• Refer to page 4-17 for printed wiring board.

FC-67 BOARD (1/7)



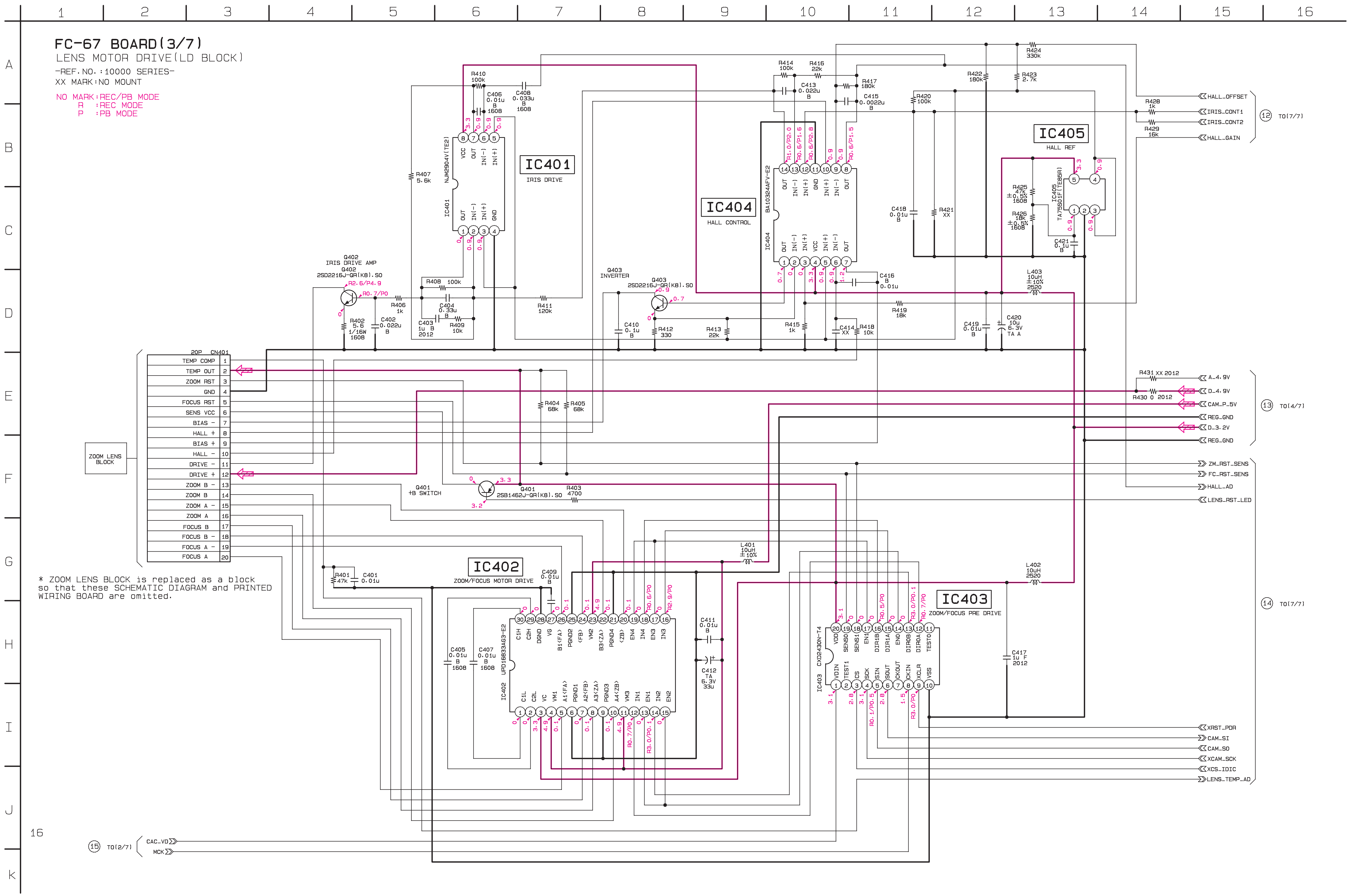


For schematic diagram
• Refer to page 4-17 for printed wiring board.

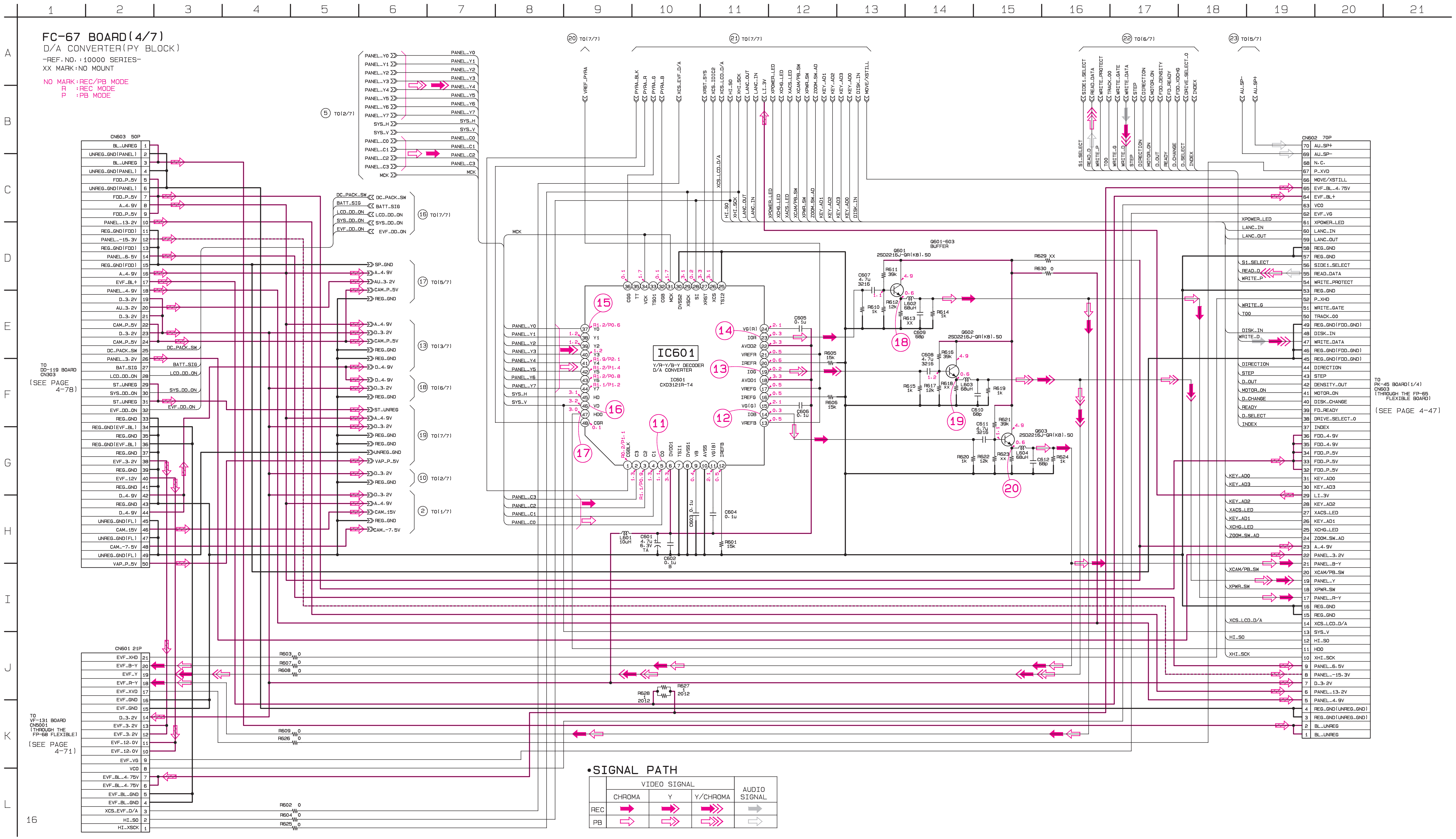


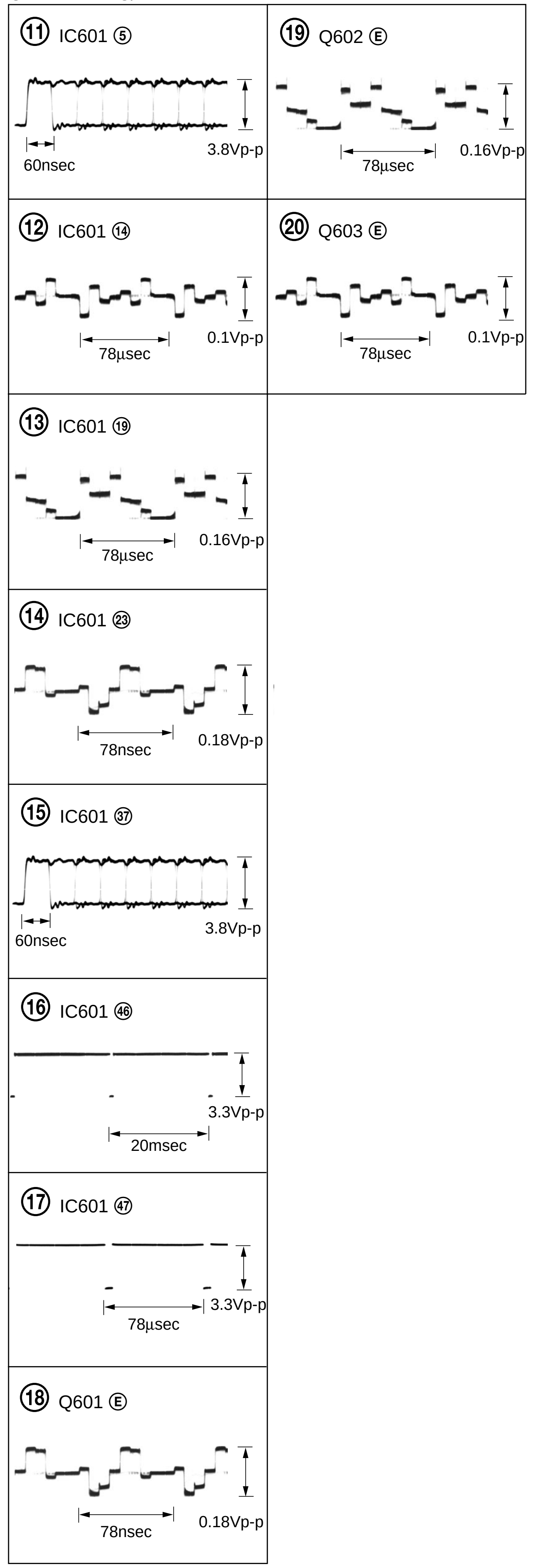
DRAM CONTROL
FC-67 (2/7)

For schematic diagram
- Refer to page 4-17 for printed wiring board.



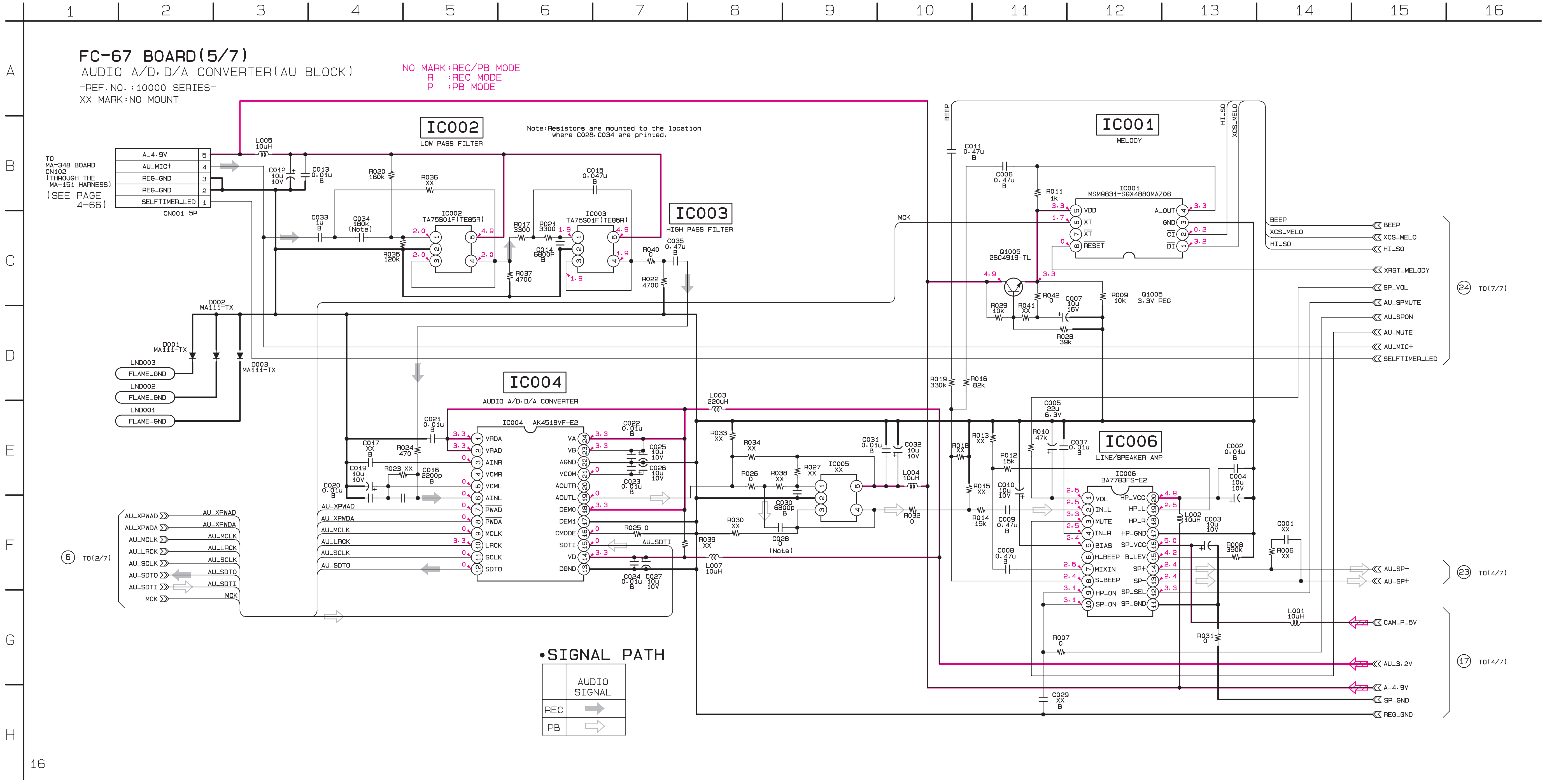
For schematic diagram
• Refer to page 4-17 for printed wiring board.





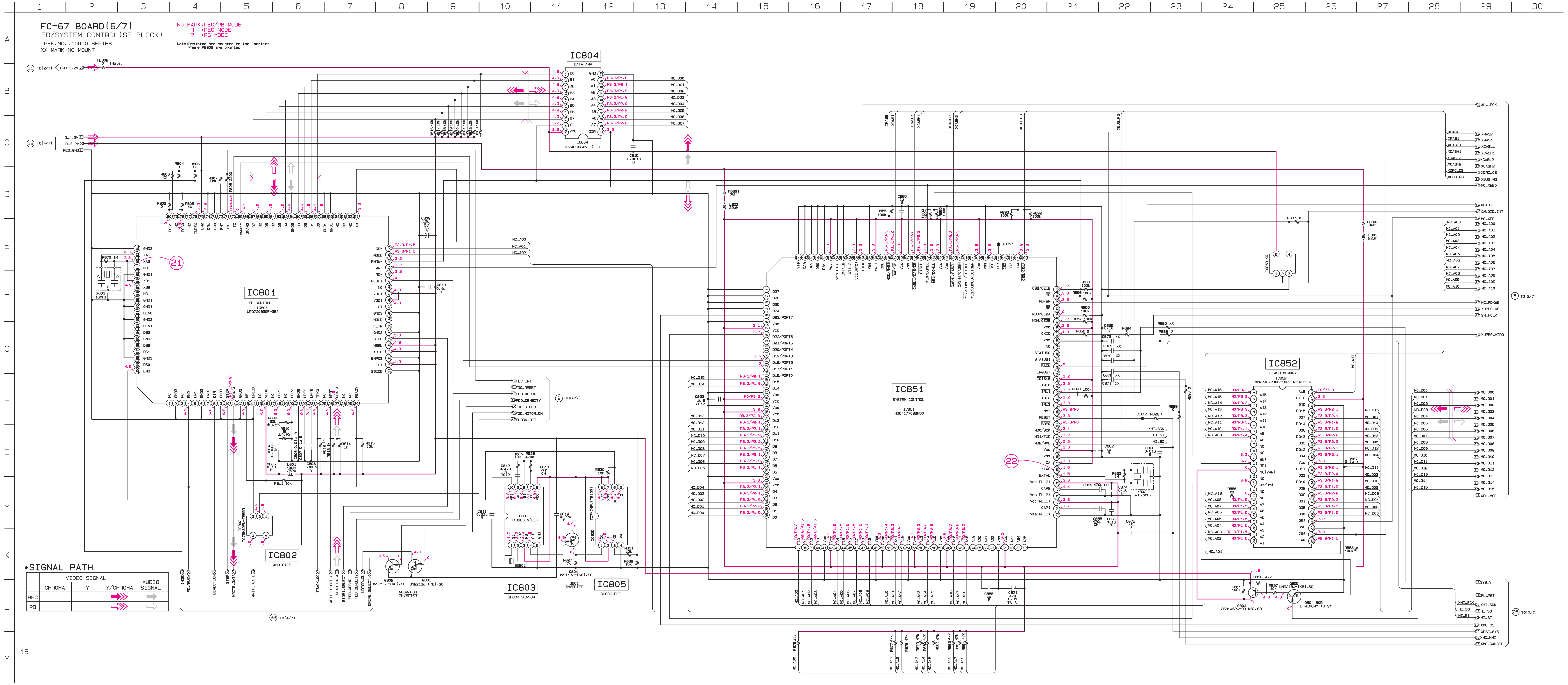
D/A CONVERTER
FC-67 (4/7)

For schematic diagram
• Refer to page 4-17 for printed wiring board.



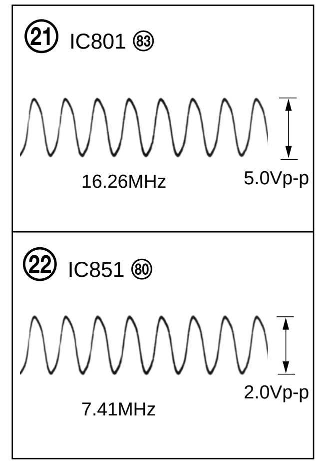
For schematic diagram

• Refer to page 4-17 for printed wiring board.



FC-67 BOARD (6/7)

CAMERA REC/PB

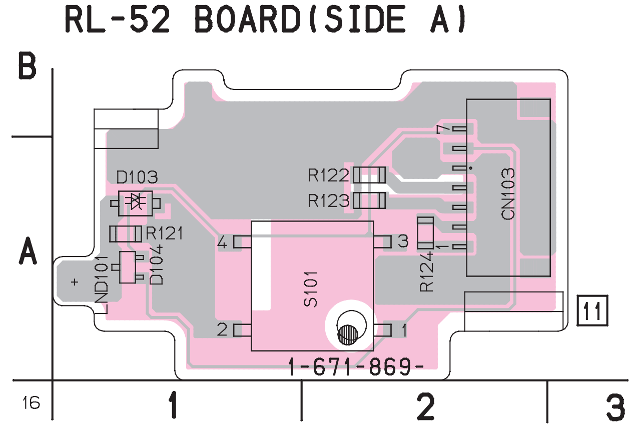


RL-52 (RELEASE SWITCH) PRINTED WIRING BOARD

— Ref. No. RL-52 Board; 2,000 Series —

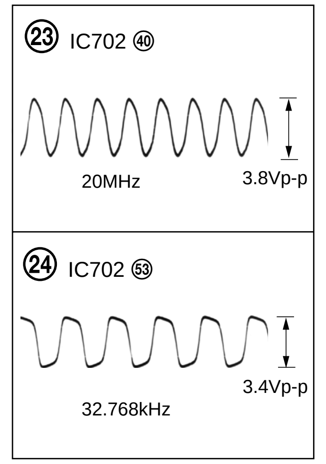
RL-52 BOARD

CN103	A-2
D103	A-1
D104	A-1
R121	A-1
R122	A-2
R123	A-2
R124	A-2
S101	A-2



FC-67 BOARD (7/7)

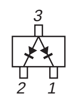
CAMERA REC/PB



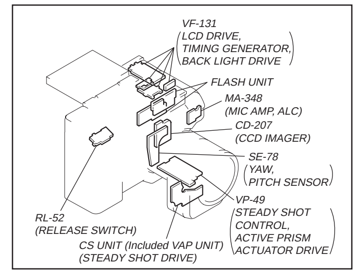
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to six have not been included in the diagram.
- Chip parts

Diode

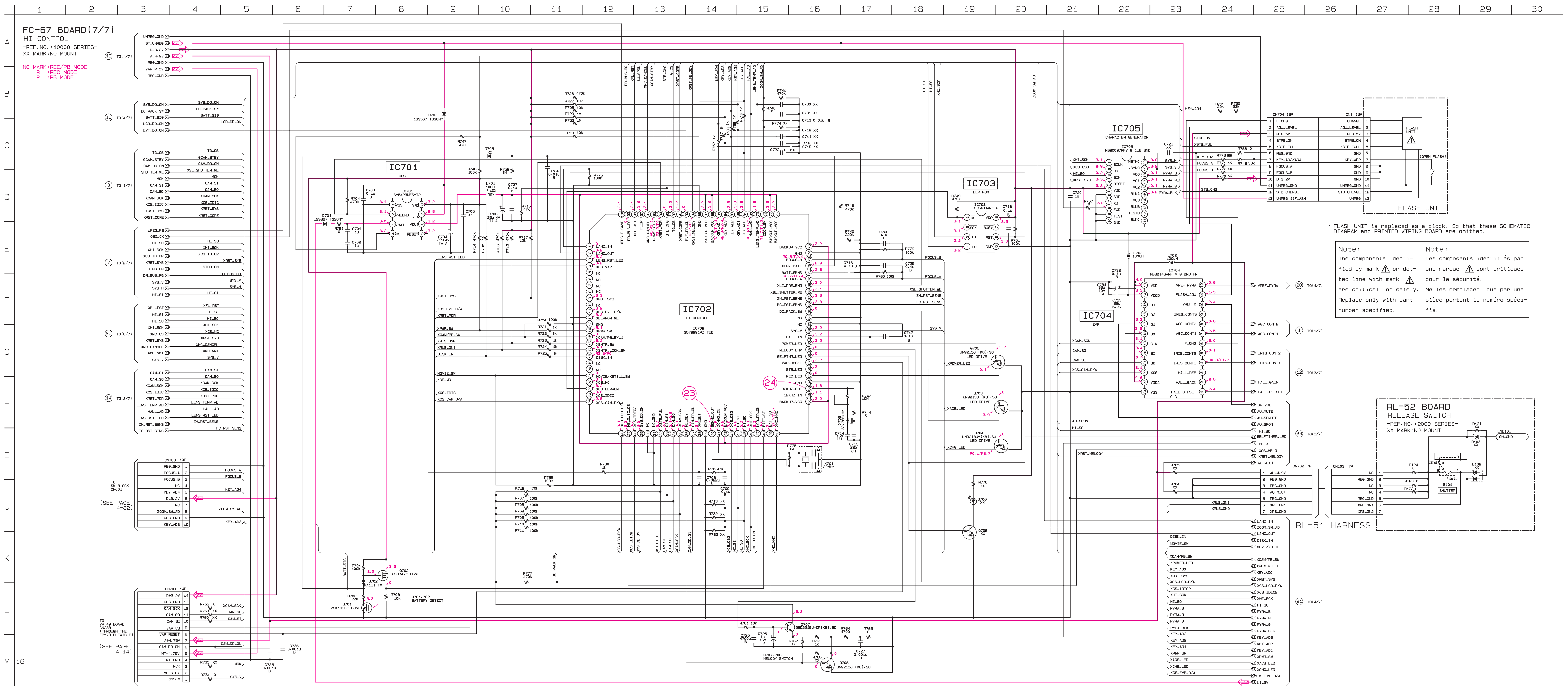


There are few cases that the part printed on this diagram isn't mounted in this model.

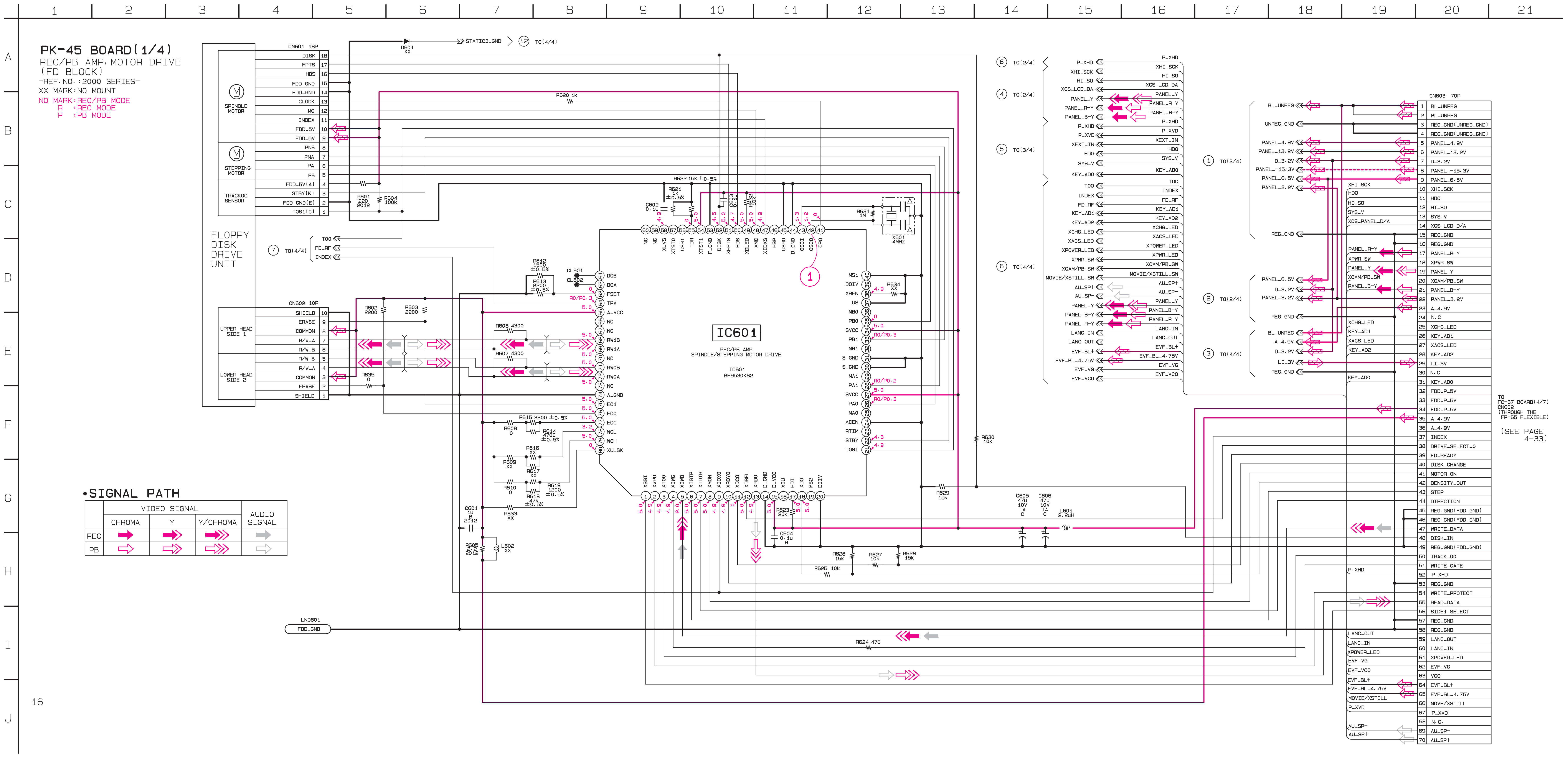


For schematic diagram

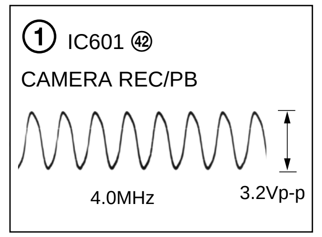
- Refer to page 4-17 for printed wiring board.



For schematic diagram
• Refer to page 4-57 for printed wiring board.

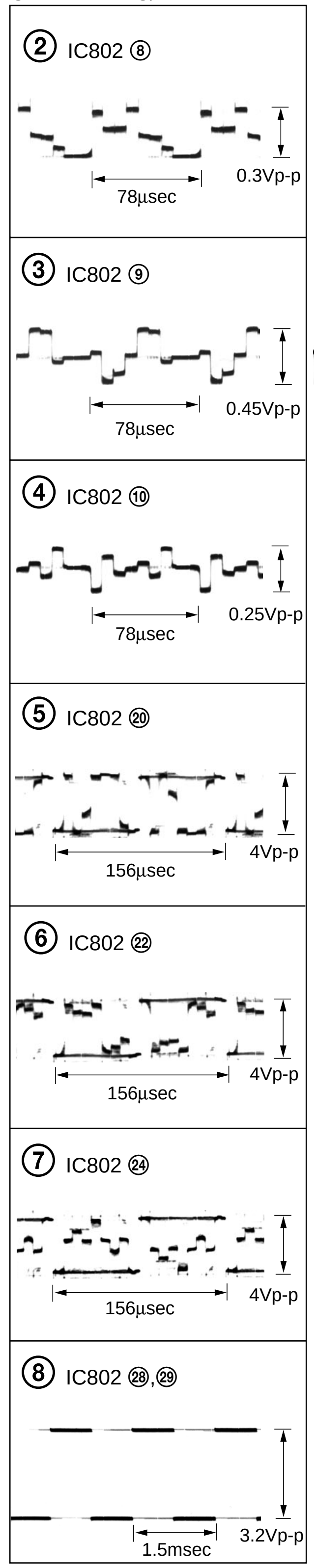


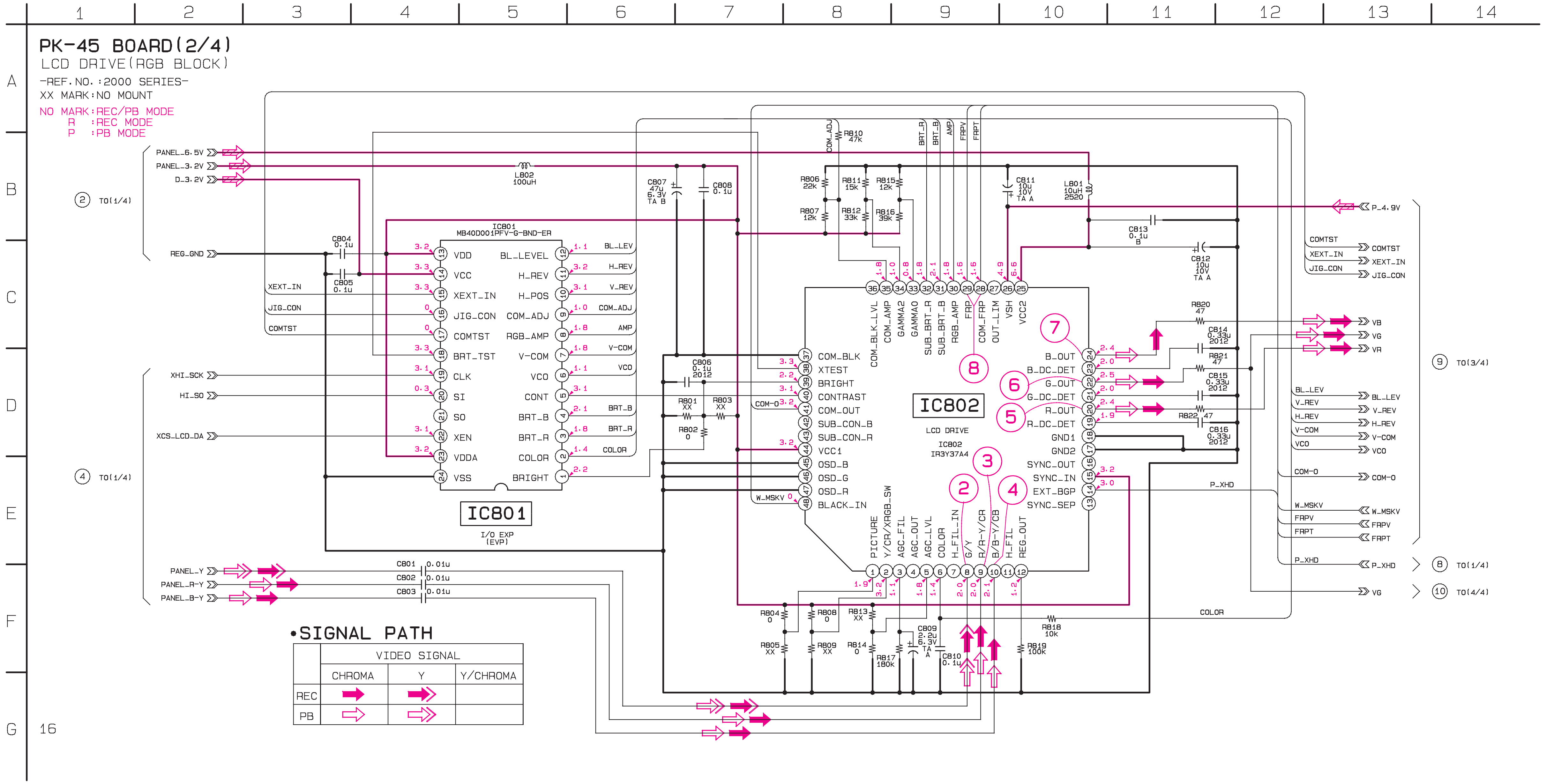
PK-45 BOARD (1/4)



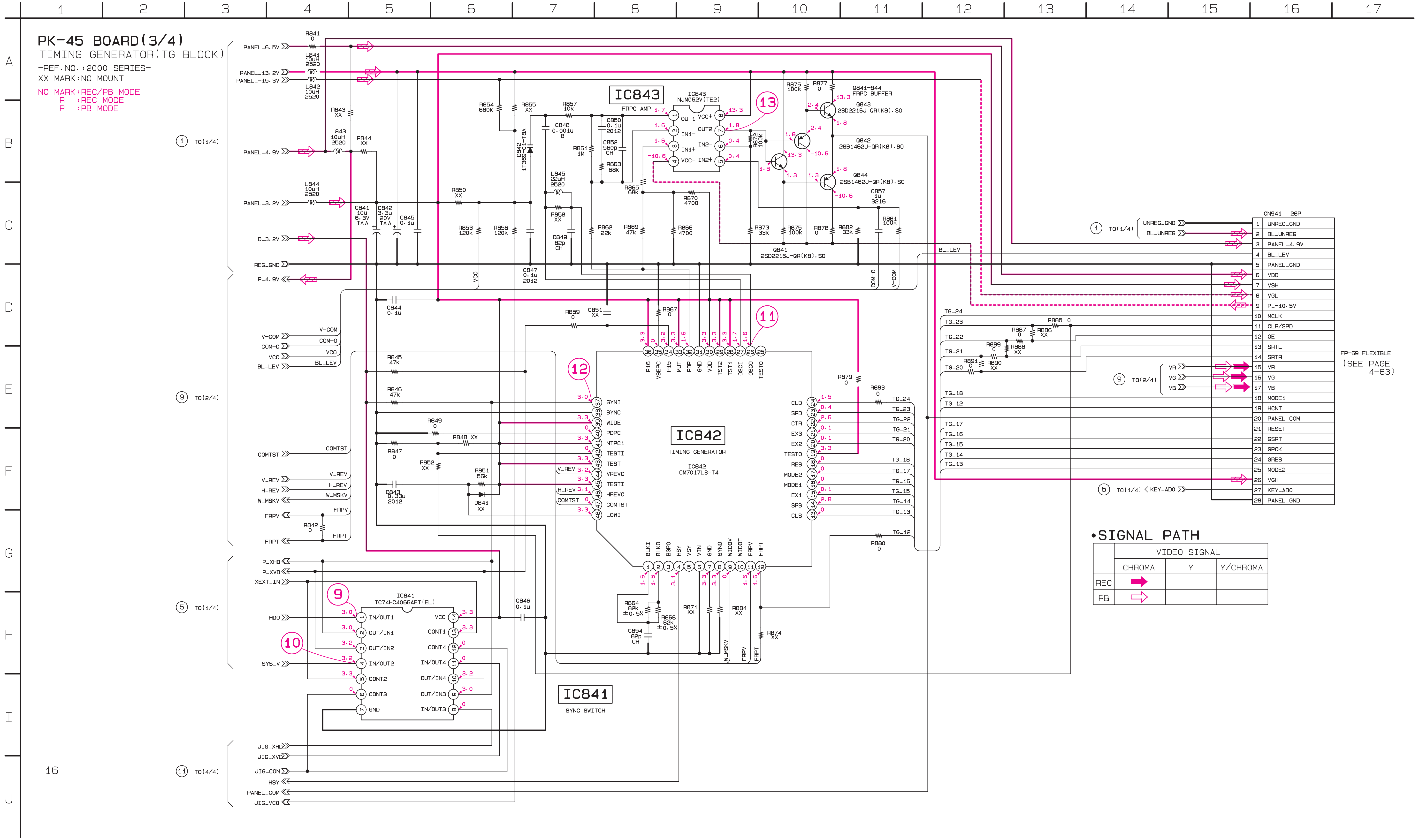
For schematic diagram
• Refer to page 4-57 for printed wiring board.

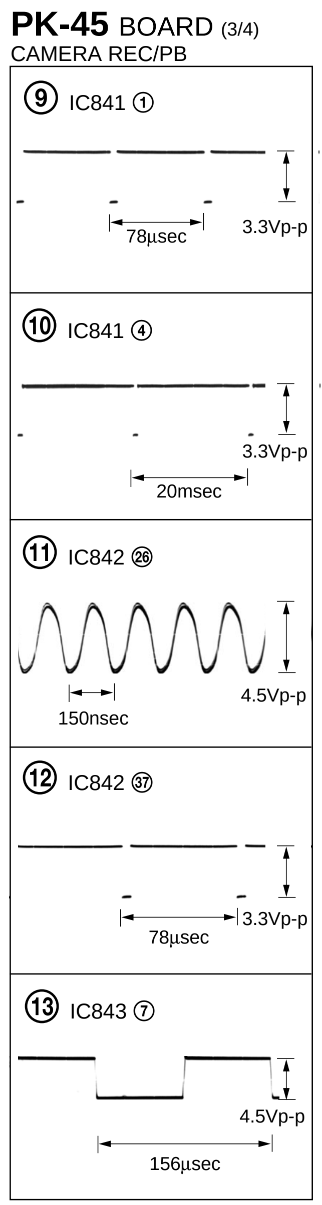
PK-45 BOARD (2/4)
CAMERA REC/PB



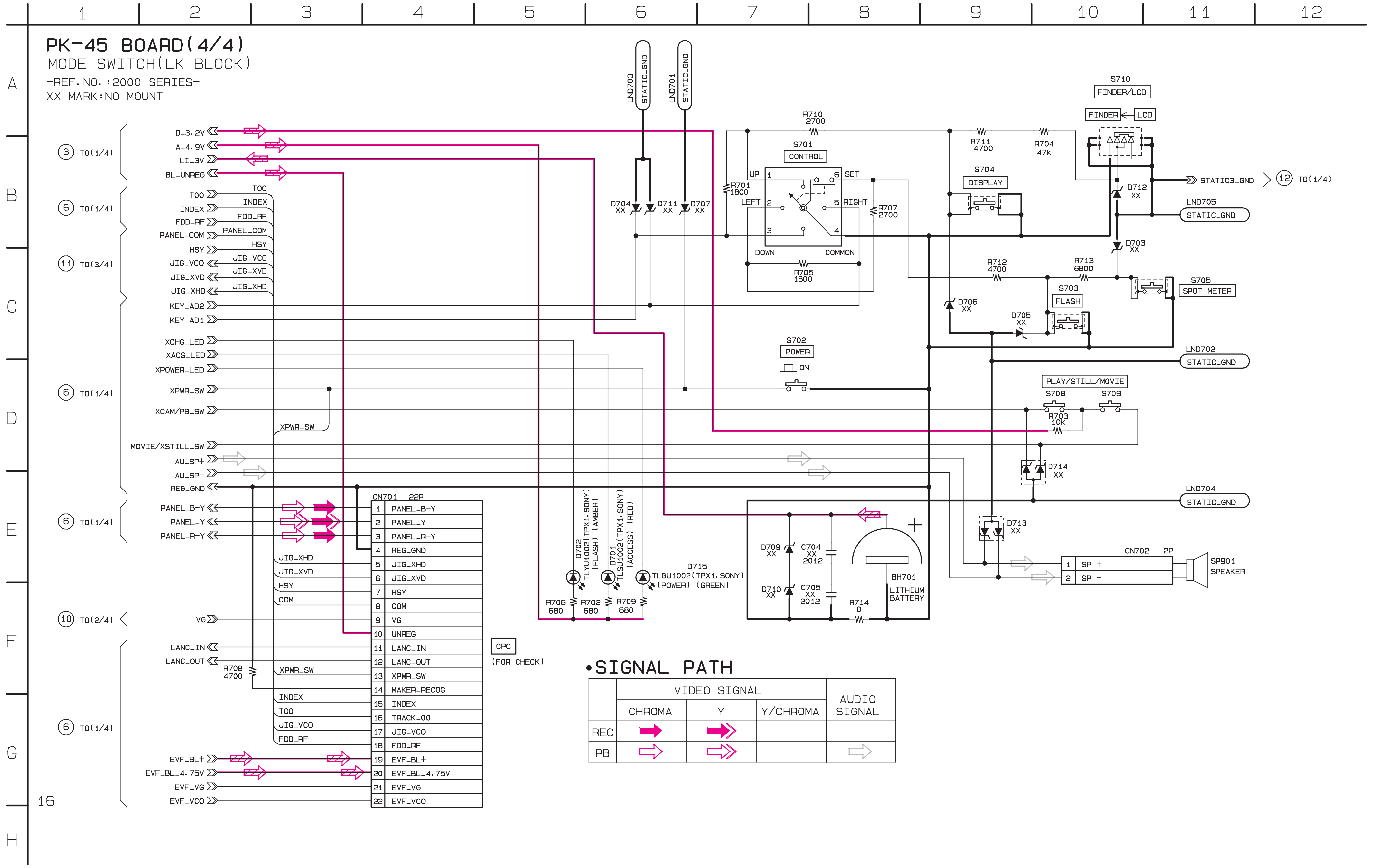


For schematic diagram
- Refer to page 4-57 for printed wiring board.



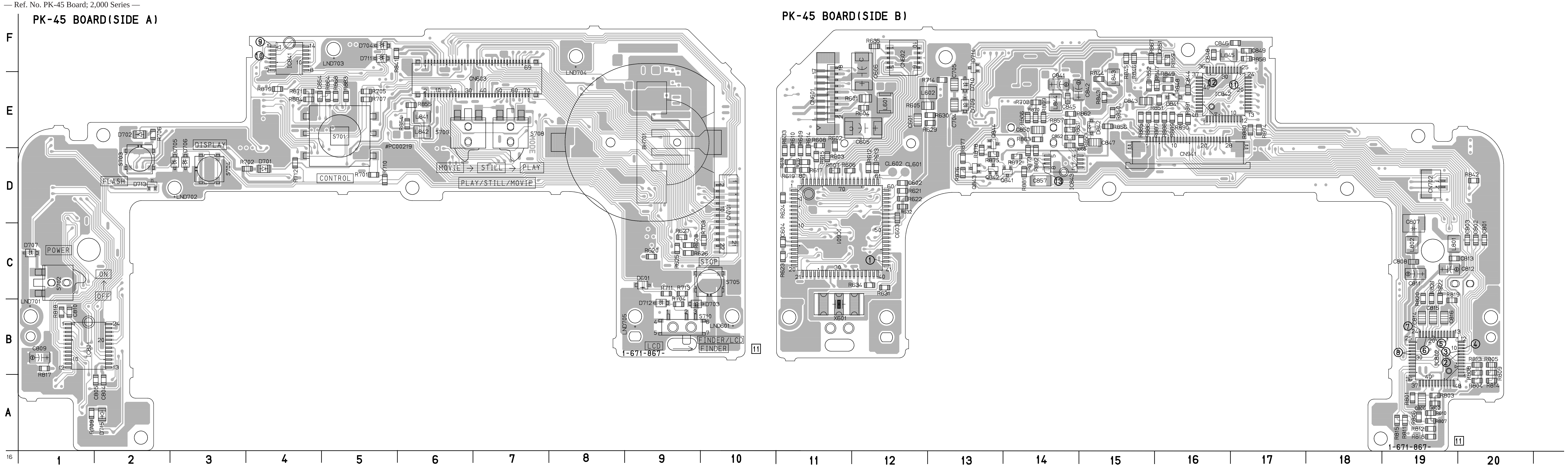


For schematic diagram
- Refer to page 4-57 for printed wiring board.



PK-45 (REC/PB AMP, MOTOR DRIVE, LCD DRIVE, TIMING GENERATOR, MODE SWITCH) PRINTED WIRING BOARD

— Ref. No. PK-45 Board; 2,000 Series —



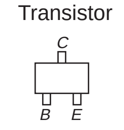
PK-45 BOARD

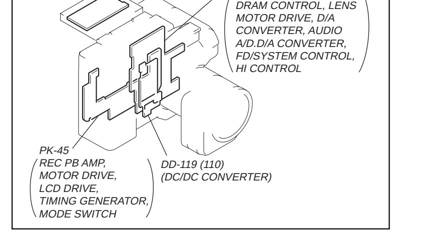
BH701	D-9	D707	C-1	R624	D-11	R848	E-16
		D709	E-13	R625	C-9	R849	E-16
C601	E-12	D710	E-13	R626	C-9	R850	E-15
C602	D-12	D711	F-5	R627	C-9	R851	E-16
C603	D-12	D712	B-9	R628	C-9	R852	E-15
C604	C-11	D713	D-2	R629	E-12	R853	E-14
C605	E-12	D714	F-13	R630	E-12	R854	E-6
C606	E-12	D715	A-2	R631	C-12	R855	E-6
C704	E-13	D841	E-16	R632	D-12	R856	E-15
C705	E-13	D842	E-15	R633	D-11	R857	E-14
C801	C-20			R634	C-12	R858	F-17
C802	C-20	IC601	C-11	R635	F-12	R859	F-16
C803	C-20	IC801	B-1	R701	D-5	R861	E-14
C804	A-2	IC802	B-19	R702	D-4	R862	E-14
C805	A-2	IC841	F-4	R703	E-14	R863	E-14
C806	A-19	IC842	E-16	R704	B-9	R864	E-5
C807	C-19	IC843	D-14	R705	E-5	R865	E-14
C808	C-19			R707	E-5	R866	E-5
C810	B-1	L601	E-12	R708	C-10	R866	E-14
C811	C-19	L602	E-12	R708	E-2	R867	F-15
C812	C-19	L801	C-19	R709	A-1	R869	E-14
C813	C-19	L802	C-19	R710	D-5	R870	E-14
C814	B-19	L841	E-6	R711	C-9	R871	E-4
C815	B-19	L842	E-6	R712	D-4	R872	D-14
C816	B-19	L843	E-15	R713	C-9	R873	D-14
C819	B-1	L844	E-14	R714	E-13	R874	E-17
C841	E-14	L845	F-16	R801	A-19	R875	D-13
C842	E-14			R802	A-19	R876	D-13
C843	E-15	Q841	D-14	R803	A-19	R877	D-13
C844	E-16	Q842	D-13	R804	A-20	R878	D-13
C845	E-14	Q843	D-13	R805	B-20	R879	E-4
C846	F-17	Q844	E-13	R806	A-19	R880	E-17
C847	E-15			R807	A-19	R881	D-14
C848	F-16	R601	E-12	R808	A-20	R882	D-14
C849	F-17	R602	D-11	R809	A-20	R883	E-5
C850	E-14	R603	D-11	R810	A-19	R884	E-4
C851	F-16	R604	E-12	R811	A-19	R885	E-15
C852	E-14	R605	E-12	R812	A-19	R886	E-15
C854	E-4	R606	D-11	R813	B-20	R887	E-15
C857	D-14	R607	D-11	R814	A-20	R888	E-16
		R608	D-11	R815	A-19	R889	E-16
CN601	E-11	R609	D-11	R816	A-19	R890	E-16
CN602	F-12	R610	D-11	R817	B-1	R891	E-16
CN603	E-6	R612	D-12	R818	B-1		
CN701	D-10	R613	D-12	R819	B-19	S701	E-5
CN702	D-19	R614	D-11	R820	B-19	S702	C-1
CN941	D-16	R615	D-11	R821	B-19	S703	D-2
		R616	D-11	R822	B-19	S704	D-3
D601	C-9	R617	D-11	R841	F-5	S705	C-10
D701	D-4	R618	D-11	R842	D-20	S708	E-7
D702	E-2	R619	D-11	R843	E-15	S709	E-6
D703	B-9	R620	C-9	R844	E-15	S710	B-9
D704	F-5	R621	D-12	R845	F-15		
D705	D-3	R622	D-12	R846	F-15	X601	B-11
D706	D-3	R623	C-11	R847	E-15		

For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor





There are few cases that the part printed on this diagram isn't mounted in this model.

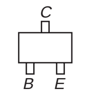
PD-104 BOARD

C901	C-3	Q901	C-4	R937	B-1
C901	E-3	Q902	C-4	R938	B-1
C902	E-3	Q903	C-4	R939	B-1
C903	D-3	Q904	B-2	R940	F-1
C904	C-3	Q905	C-4	R941	C-2
C905	C-3	Q906	E-2	R942	C-1
C906	C-2	Q907	C-4	R943	C-1
C907	C-3	Q908	C-4	R944	C-1
C908	C-3	Q909	C-4	R945	C-1
C909	C-2	Q910	E-3	R946	C-2
C910	C-3	Q911	C-5	R947	C-1
C912	D-3			R948	C-1
C913	C-4	R901	A-4	R949	B-1
C914	E-3	R903	C-3	R950	C-1
C915	C-5	R904	C-3	R951	B-1
C916	E-5	R905	B-3	R952	B-1
C932	C-2	R906	B-2	R953	F-1
C933	B-1	R907	B-2	R954	B-1
C934	C-2	R908	C-2	R955	B-1
C935	B-1	R909	C-4	R956	C-1
C936	C-2	R910	C-4	R957	C-1
C991	F-1	R911	C-4	R958	C-1
		R912	B-4	R959	C-1
CN901	F-3	R913	C-4	R960	C-1
CN902	D-4	R914	C-4	R961	C-1
CN931	D-1	R915	B-4	R962	C-1
CN971	E-1	R916	C-4	R963	C-2
		R917	E-3	R971	E-1
D901	A-4	R918	E-3	R972	F-1
D902	D-3	R919	C-4	R973	E-1
D903	C-5	R920	C-4	R974	E-1
D904	C-5	R921	C-5	R975	A-2
D931	B-1	R922	C-5		
		R923	C-5	S971	A-2
IC901	C-3	R931	C-2		
IC902	C-4	R932	C-2	T901	F-4
		R933	A-1		
L901	E-2	R934	B-1		
L902	E-2	R935	F-1		
L903	E-3	R936	B-1		

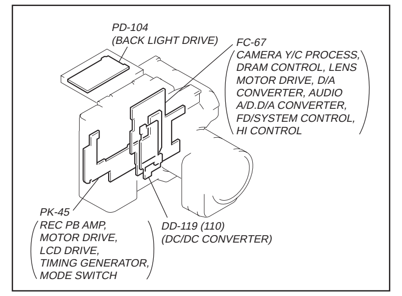
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor

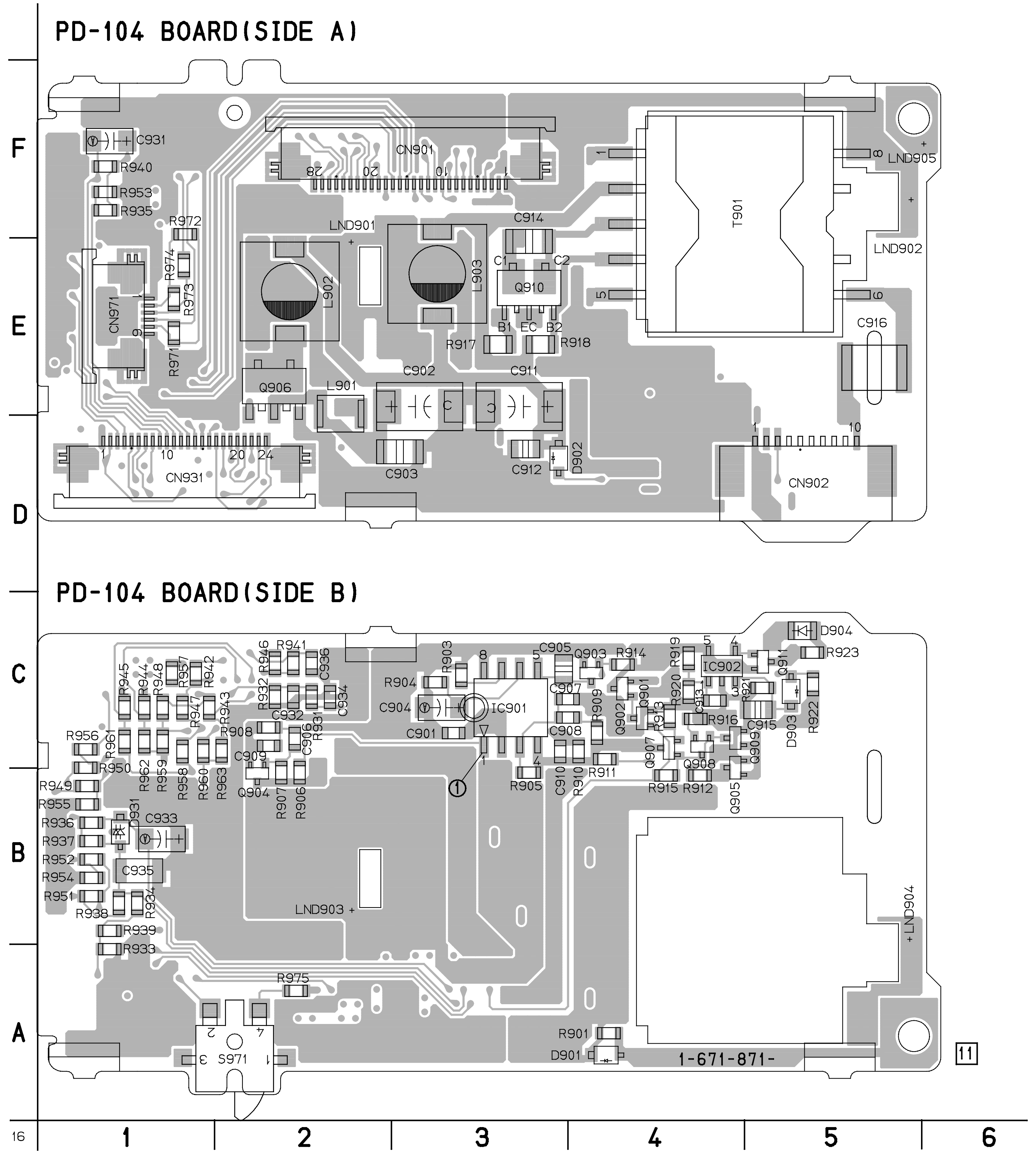


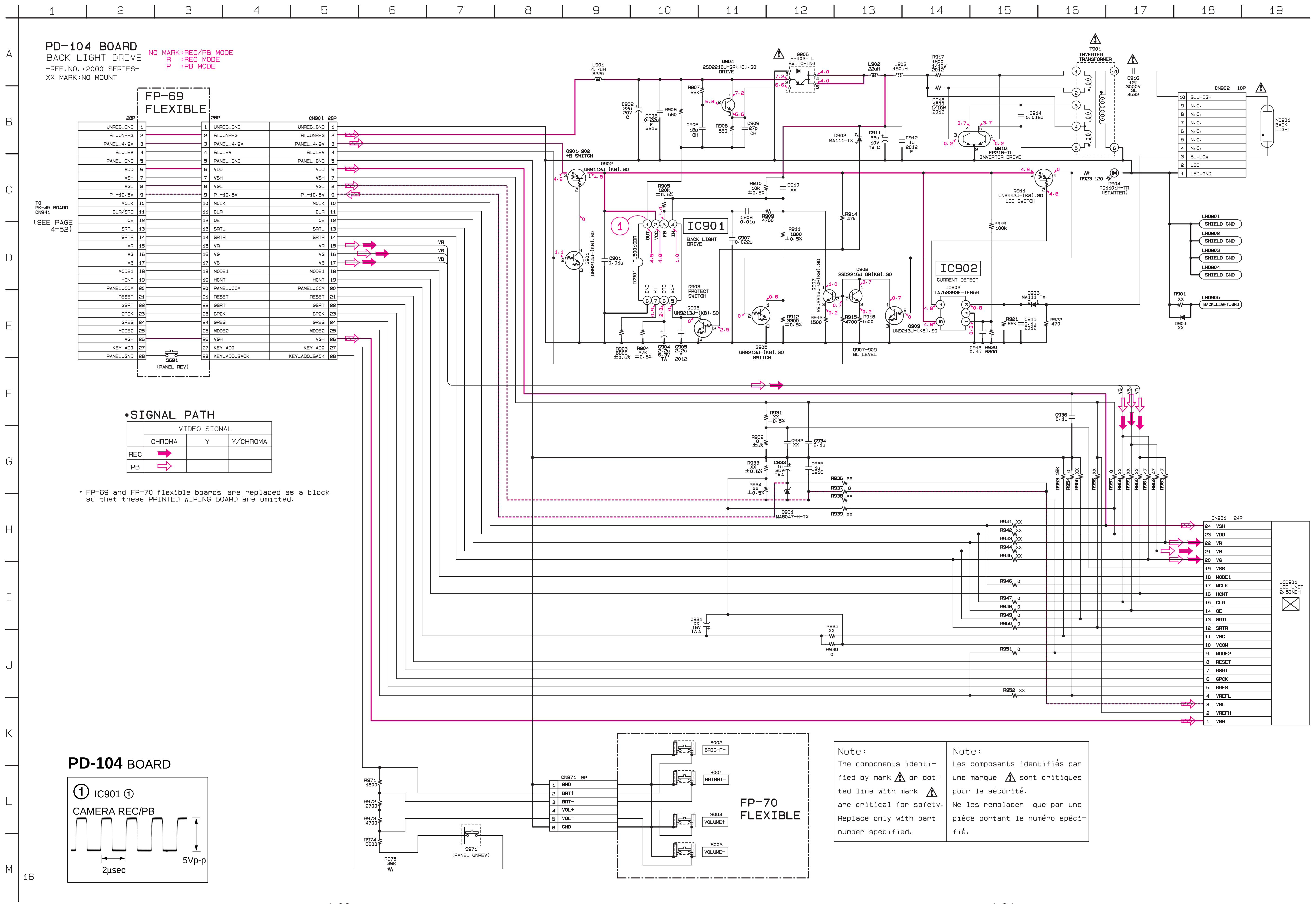
There are few cases that the part printed on this diagram isn't mounted in this model.



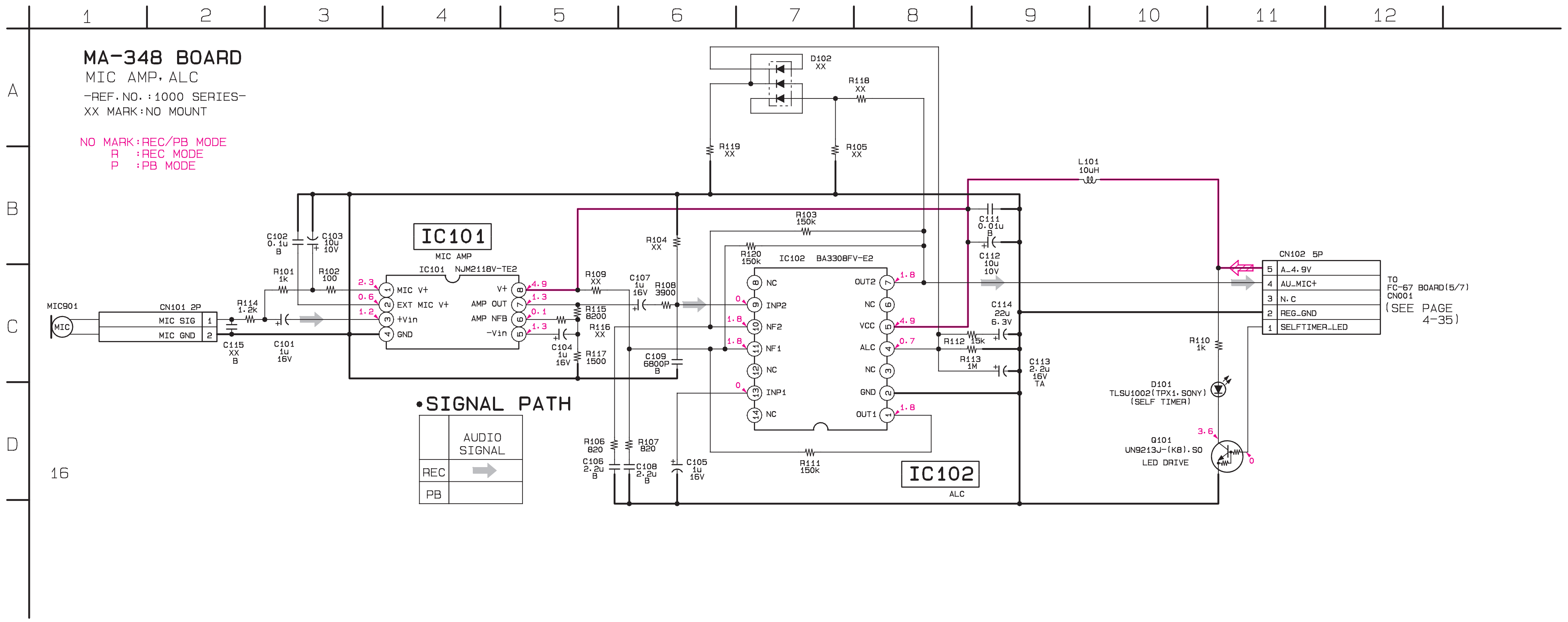
PD-104 (BACK LIGHT DRIVE) PRINTED WIRING BOARD

— Ref. No. PD-104 Board; 2,000 Series —



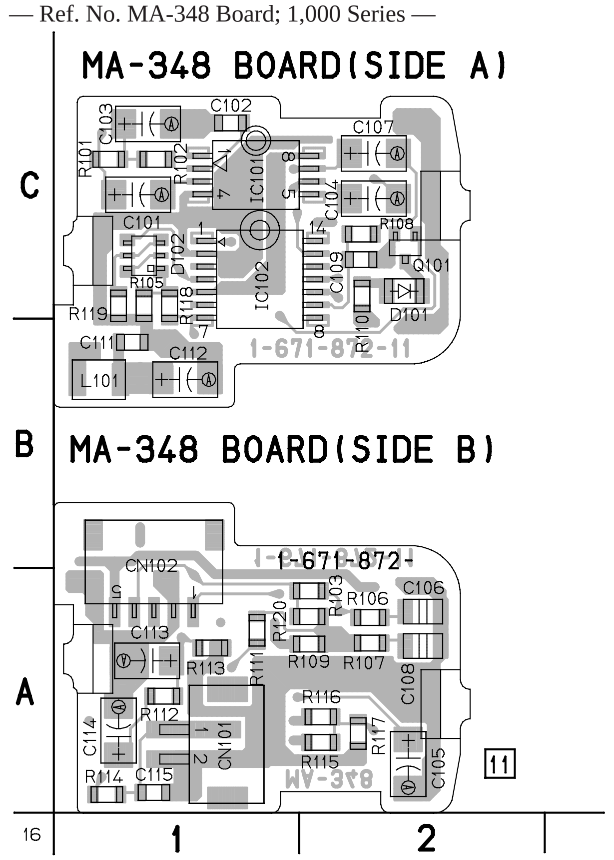


BACK LIGHT DRIVE
PD-104



MA-348 (MIC AMP, ALC) PRINTED WIRING BOARD

— Ref. No. MA-348 Board; 1,000 Series —



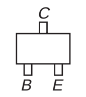
MA-348 BOARD

C101	C-1
C102	C-1
C103	C-1
C104	C-2
C105	A-2
C106	A-2
C107	C-2
C108	A-2
C109	C-2
C111	B-1
C112	B-1
C113	A-1
C114	A-1
C115	A-1
CN101	A-1
CN102	B-1
D101	C-2
D102	C-1
IC101	C-1
IC102	C-1
L101	B-1
Q101	C-2
R101	C-1
R102	C-1
R103	A-2
R105	C-1
R106	A-2
R107	A-2
R108	C-2
R109	A-2
R110	C-2
R111	A-1
R112	A-1
R113	A-1
R114	A-1
R115	A-2
R116	A-2
R117	A-2
R118	C-1
R119	C-1
R120	A-2

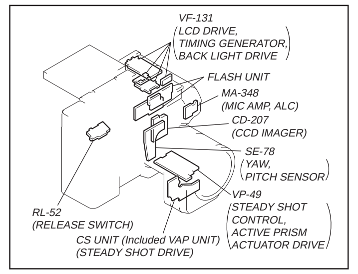
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor



There are few cases that the part printed on this diagram isn't mounted in this model.



VF-131 (LCD DRIVE, TIMING GENERATOR) PRINTED WIRING BOARD

— Ref. No. VF-131 Board; 10,000 Series —

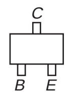
VF-131 BOARD

C5001	G-4	CN5001	F-4	R5041	G-3
C5002	G-4	CN5202	G-11	R5044	G-3
C5003	H-4			R5046	G-9
C5004	G-3	D5101	D-8	R5048	G-4
C5005	G-3	D5102	F-4	R5049	G-4
C5006	G-3	D5201	D-8	R5050	G-8
C5007	G-8	D5202	A-3	R5051	G-3
C5008	G-3			R5052	G-3
C5009	G-3	IC5001	G-4	R5102	D-8
C5010	G-8	IC5002	G-8	R5103	E-8
C5011	F-3	IC5101	E-8	R5104	E-8
C5012	G-3	IC5102	F-8	R5105	D-8
C5013	G-3	IC5103	F-3	R5106	D-8
C5015	G-8			R5107	D-8
C5016	G-8	L5001	G-4	R5108	E-8
C5101	E-8	L5002	G-8	R5109	D-8
C5102	E-8	L5101	D-8	R5110	D-8
C5103	E-8	L5102	F-8	R5111	E-8
C5104	E-8	L5103	F-8	R5113	D-8
C5105	D-8	L5201	E-3	R5114	E-8
C5106	E-8	L5202	D-3	R5115	E-8
C5107	E-8			R5116	D-8
C5108	E-8	ND5201	A-4	R5117	D-8
C5109	D-8			R5118	E-8
C5110	E-8	Q5046	G-8	R5119	F-3
C5111	D-8	Q5101	E-8	R5120	F-3
C5112	D-8	Q5102	E-8	R5121	F-3
C5113	E-8	Q5103	E-8	R5123	F-7
C5114	E-8	Q5104	E-8	R5122	E-3
C5115	F-7	Q5201	D-3	R5124	E-3
C5116	F-3			R5125	F-4
C5117	F-4	R5005	G-7	R5126	E-3
C5118	F-4	R5008	G-7	R5128	F-4
C5119	F-4	R5009	G-7	R5132	E-9
C5120	F-8	R5017	G-7	R5201	D-3
C5121	G-8	R5020	G-4	R5202	D-8
C5122	F-4	R5021	G-4	R5204	F-3
C5123	G-8	R5022	H-4	R5205	F-3
C5201	D-3	R5024	G-7	R5206	F-3
C5202	E-3	R5025	G-7	R5207	F-3
C5203	D-3	R5026	G-7	R5208	F-8
C5204	E-3	R5030	G-3		
C5205	E-3	R5031	G-3	T5201	A-5
C5206	E-3	R5033	F-3		
C5207	D-3	R5033	G-3		
C5208	D-3	R5034	F-3		
C5209	D-8	R5040	G-3		

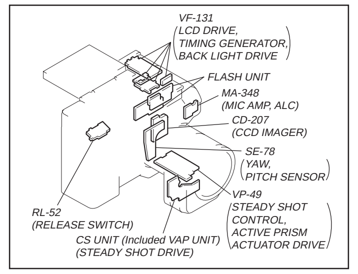
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

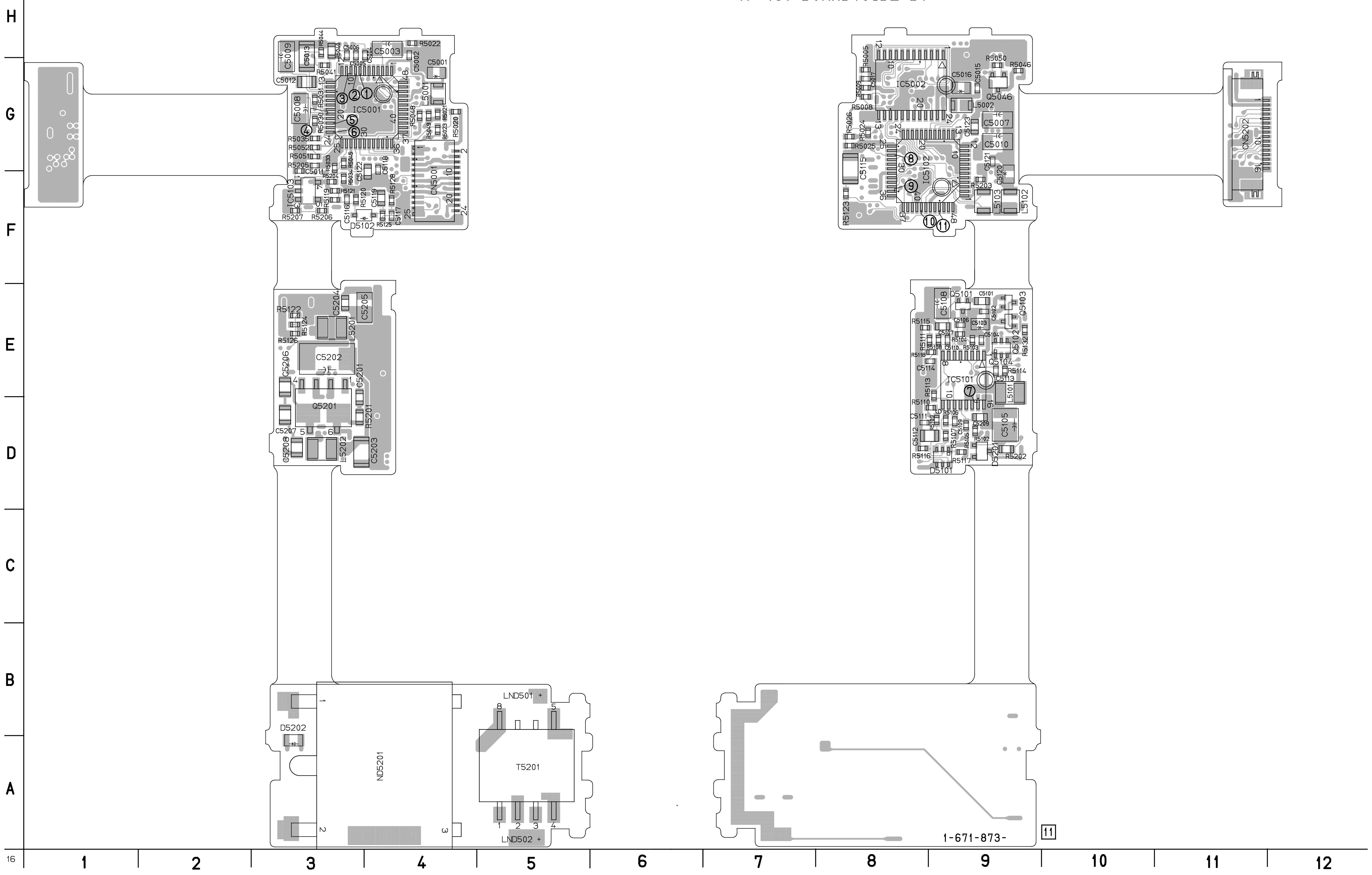
Transistor



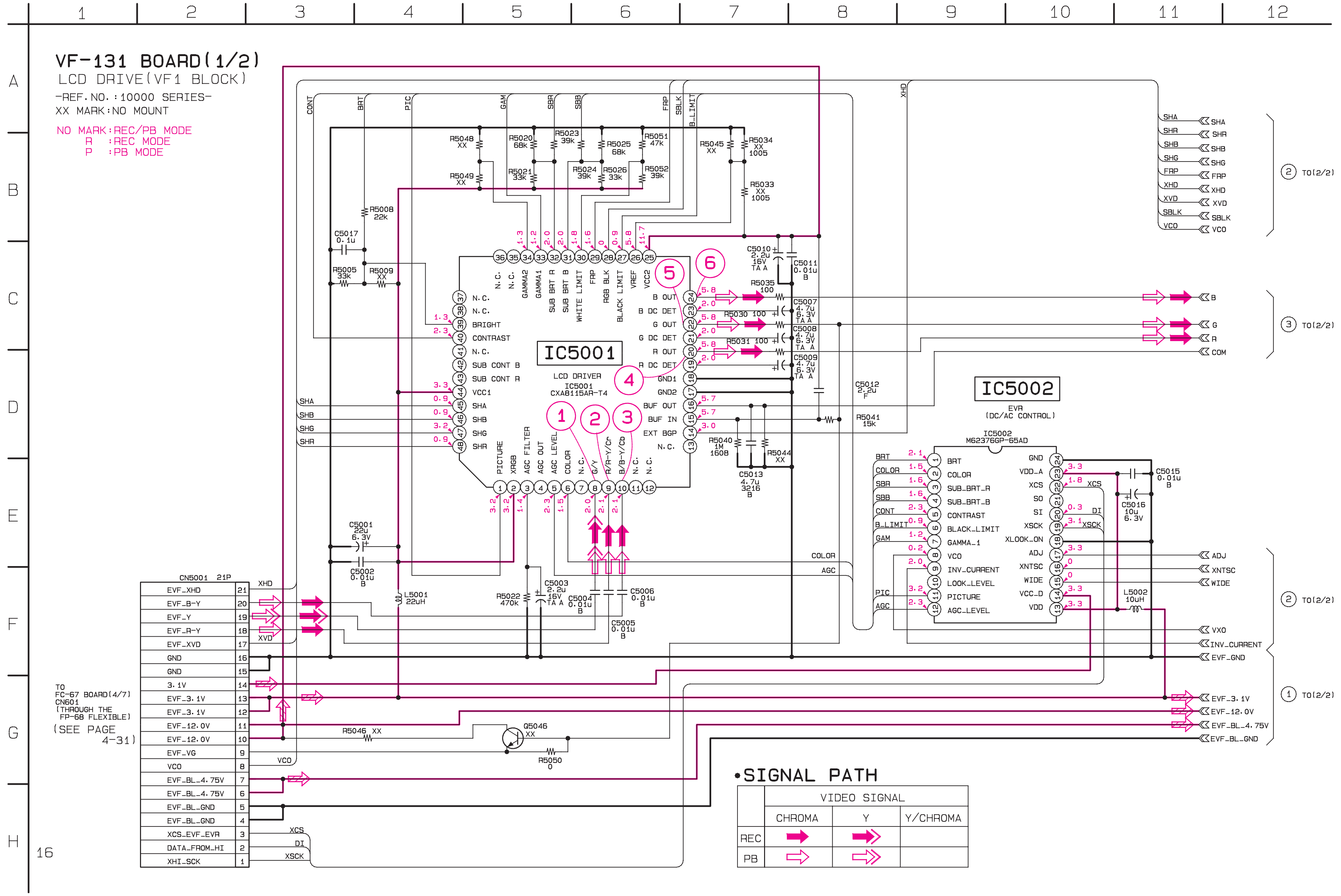
There are few cases that the part printed on this diagram isn't mounted in this model.



VF-131 BOARD(SIDE A)   VF-131 BOARD(SIDE B)



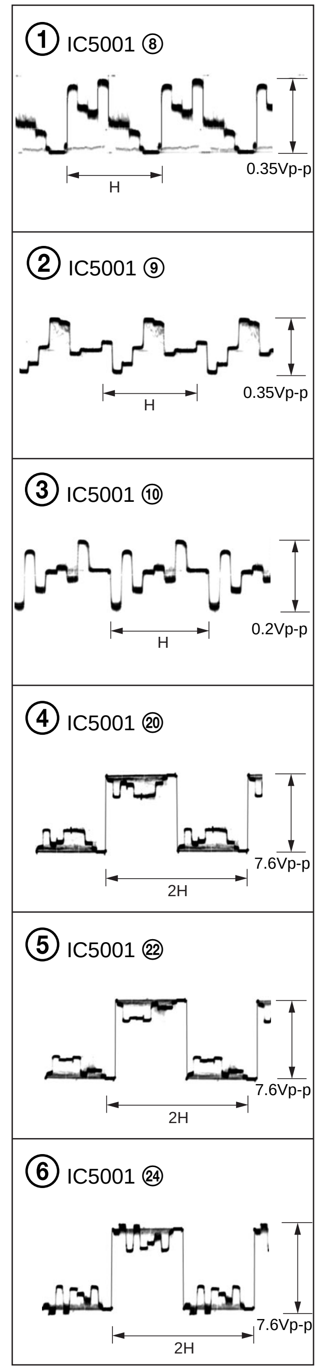
LCD DRIVE, TIMING GENERATOR
VF-131

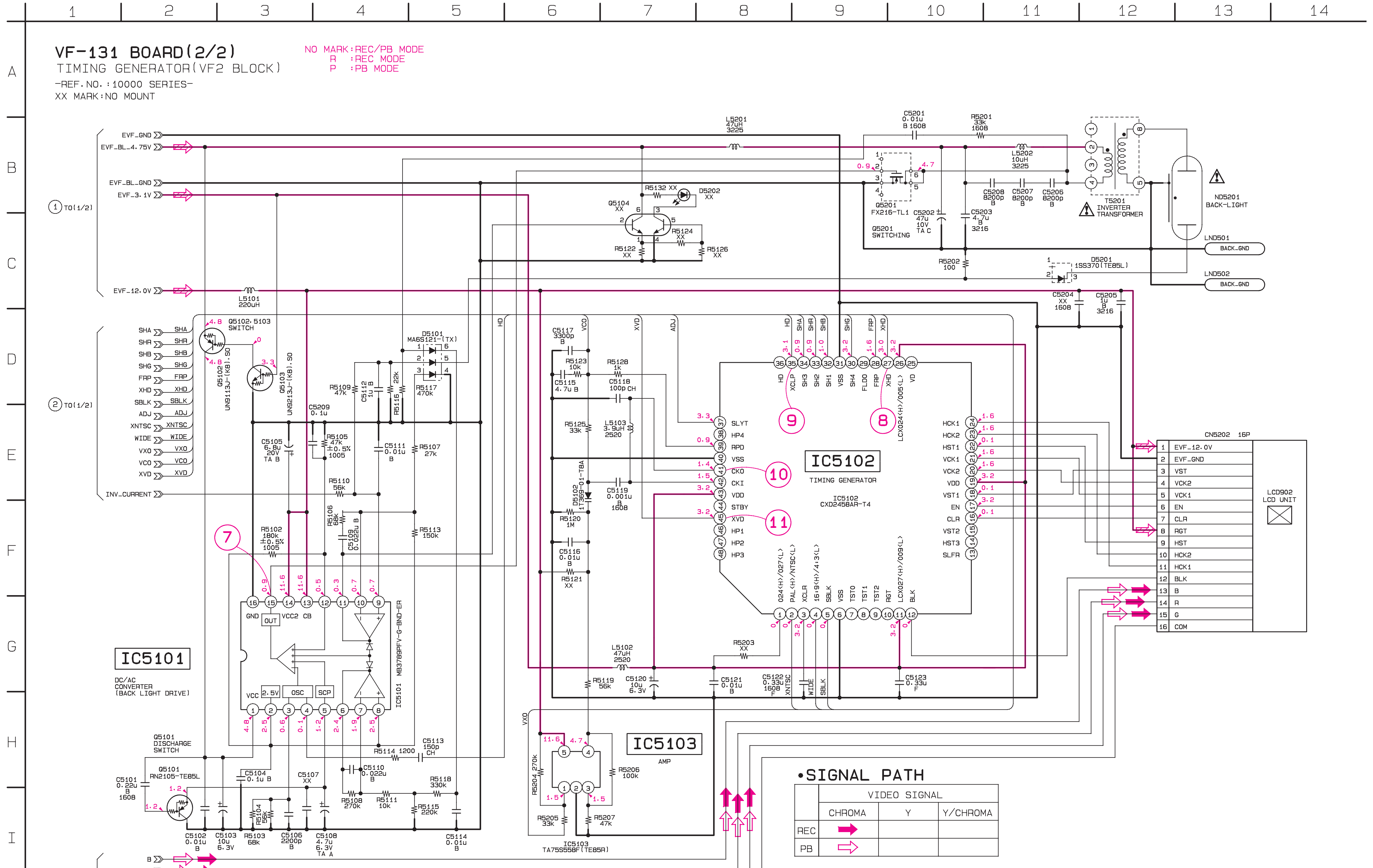


•SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	
PB	⇨	⇨	

VF-131 BOARD (1/2)
CAMERA REC/PB





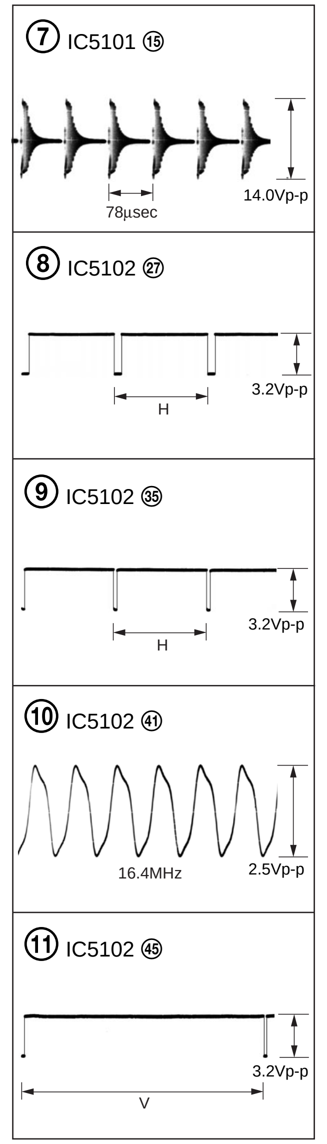
•SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	
PB	⇨	⇨	

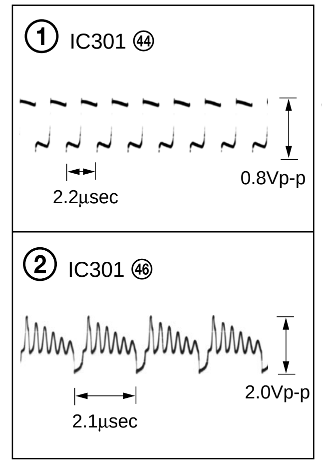
Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

VF-131 BOARD (2/2)
CAMERA REC/PB



DD-119 BOARD
CAMERA REC/PB

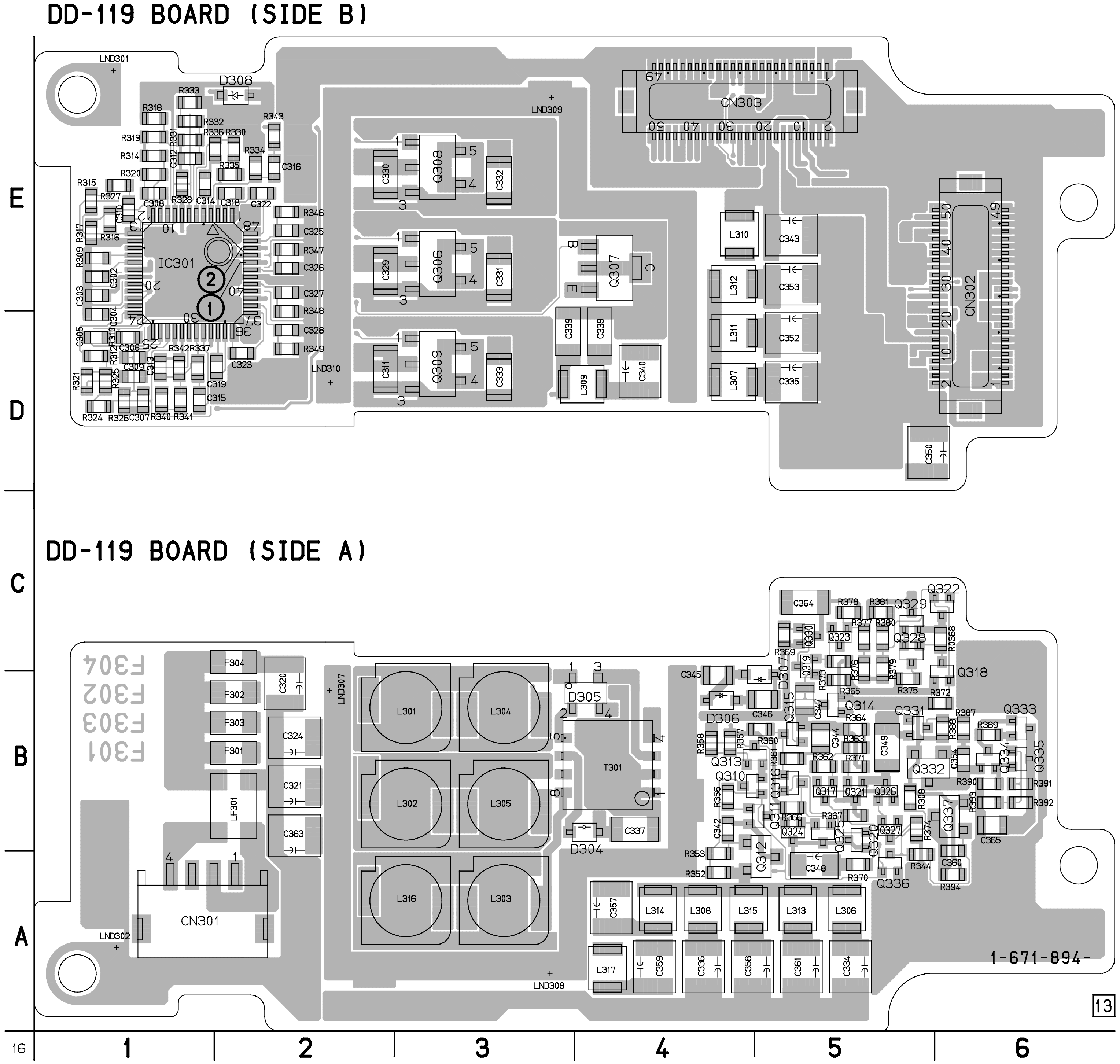


Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

DD-119 (DC/DC CONVERTER) PRINTED WIRING BOARD

— Ref. No. DD-119 Board; 2,000 Series —



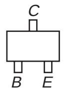
DD-119 BOARD

C302	E-1	C357	A-4	Q308	E-3	R332	E-1
C303	E-1	C358	A-4	Q309	D-3	R333	E-1
C304	D-1	C359	A-4	Q310	B-4	R334	E-2
C305	D-1	C360	B-6	Q311	B-5	R335	E-2
C306	D-1	C361	A-5	Q312	A-5	R336	E-1
C307	D-1	C363	B-2	Q313	B-5	R337	D-1
C308	E-1	C364	C-5	Q314	B-5	R340	D-1
C309	D-1	C365	B-6	Q315	B-5	R341	D-1
C310	E-1	C390	B-6	Q316	B-5	R342	D-1
C311	D-2	C393	B-6	Q317	B-5	R343	E-2
C312	E-1			Q318	C-6	R344	A-5
C313	D-1	CN301	A-1	Q319	C-5	R346	E-2
C314	E-1	CN302	E-6	Q320	B-5	R347	E-2
C315	D-1	CN303	E-4	Q321	B-5	R348	E-2
C316	E-2			Q322	C-6	R349	D-2
C318	E-2	D304	B-4	Q323	C-5	R352	A-4
C319	D-2	D305	B-4	Q324	B-5	R353	A-4
C320	B-2	D306	B-4	Q325	B-5	R356	B-4
C321	B-2	D307	B-5	Q326	B-5	R357	B-4
C322	E-2	D308	E-2	Q327	B-5	R358	B-4
C323	D-2			Q328	C-5	R360	B-5
C324	B-2	F301	B-2	Q329	C-5	R361	B-5
C325	E-2	F302	B-2	Q330	C-5	R362	B-5
C326	E-2	F303	B-2	Q331	B-5	R363	B-5
C327	E-2	F304	C-2	Q332	B-5	R364	B-5
C328	D-2			Q333	B-6	R365	B-5
C329	E-2	IC301	E-1	Q334	B-6	R366	B-5
C330	E-2			Q335	B-6	R367	B-5
C331	E-3	L301	B-3	Q336	A-5	R368	C-6
C332	E-3	L302	B-3	Q337	B-6	R369	C-5
C333	D-3	L303	A-3			R370	A-5
C334	A-5	L304	B-3	R308	B-5	R371	B-5
C335	D-5	L305	B-3	R309	E-1	R372	B-6
C336	A-4	L306	A-5	R310	D-1	R373	C-5
C337	B-4	L307	D-4	R312	D-1	R374	B-5
C338	D-4	L308	A-4	R314	E-1	R375	B-5
C339	D-3	L309	D-3	R315	E-1	R376	C-5
C340	D-4	L310	E-4	R316	E-1	R377	C-5
C342	B-4	L311	D-4	R317	E-1	R378	C-5
C343	E-5	L312	E-4	R318	E-1	R379	C-5
C344	B-5	L313	A-5	R319	E-1	R380	C-5
C345	B-4	L314	A-4	R320	E-1	R381	C-5
C346	B-5	L315	A-4	R321	D-1	R387	B-6
C347	B-5	L316	A-3	R324	D-1	R388	B-6
C348	A-5	L317	A-4	R325	D-1	R389	B-6
C349	B-5			R326	D-1	R391	B-6
C350	D-5	LF301	B-2	R327	E-1	R392	B-6
C352	D-5			R328	E-1	R394	A-6
C353	E-5	Q306	E-3	R330	E-2		
C354	B-6	Q307	E-4	R331	E-1	T301	B-4

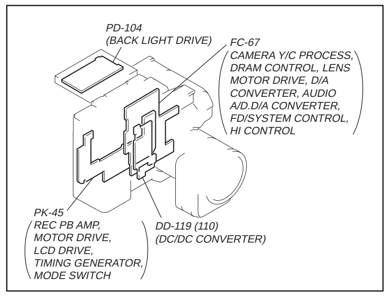
For printed wiring boards

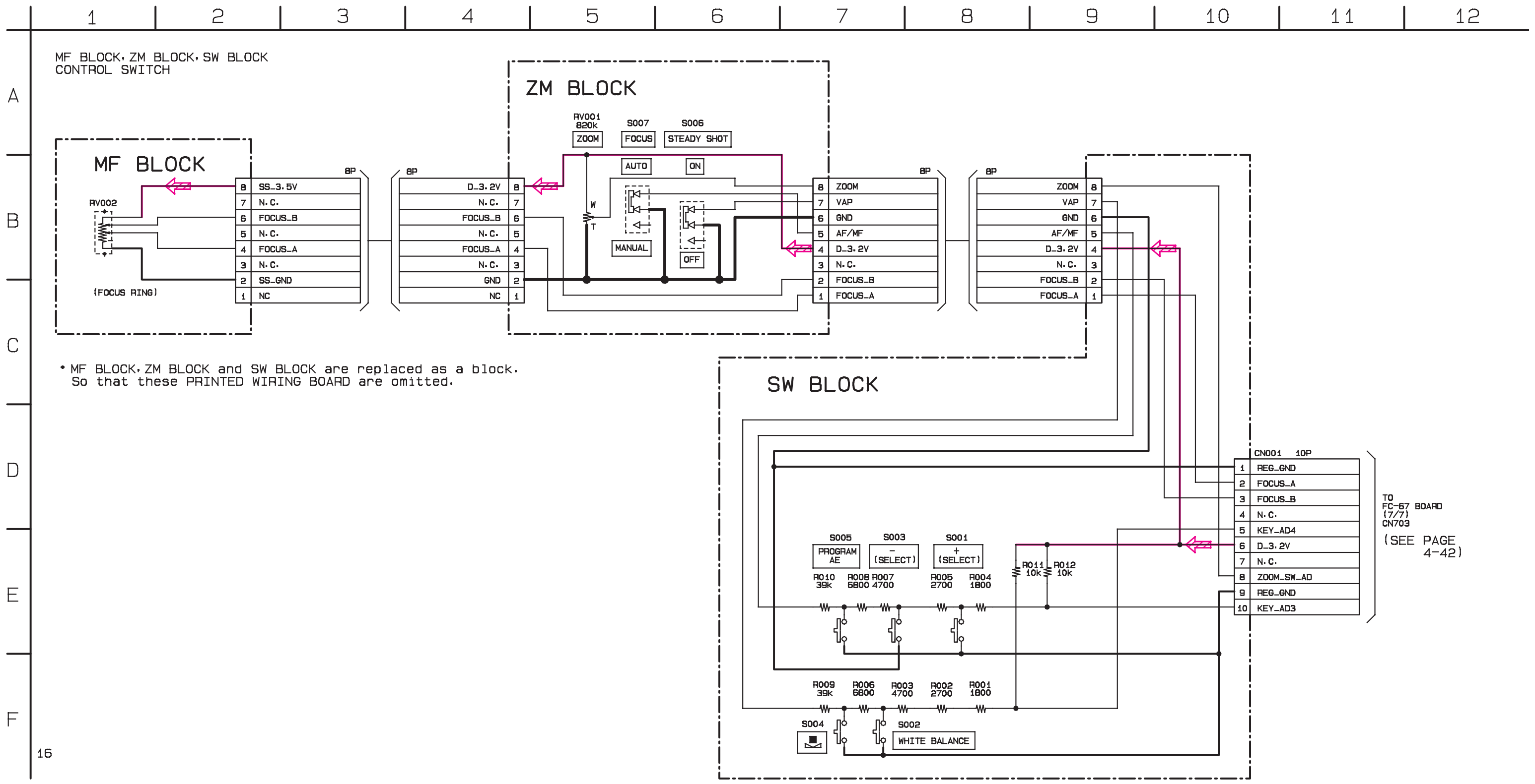
- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor



There are few cases that the part printed on this diagram isn't mounted in this model.





• MF BLOCK, ZM BLOCK and SW BLOCK are replaced as a block.
So that these PRINTED WIRING BOARD are omitted.

MF/ZM/SW BLOCK

SECTION 5
ADJUSTMENTS

5-1. CAMERA SECTION ADJUSTMENT

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

- Oscilloscope
- Regulated power supply
- Digital voltmeter
- Frequency counter
- AC power adapter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0	J-6080-808-A	White balance check
	ND filter 0.3	J-6080-818-A	White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Siemens star chart	J-6080-875-A	For checking the flange back
J-6	Adjustment remote commander (RM-95 upgraded). (Note 2)	J-6082-053-B	
J-7	Clear chart for pattern box	J-6080-621-A	
J-8	CPC-12 jig (22P, 0.5mm)	J-6082-436-A	For connecting the adjustment remote commander and the measuring instruments
J-9	Extension cable (10P, 0.8mm and 18P, 0.5mm)	J-6082-427-A	For extension between the FDD UNIT and PK-45 board (CN601, 602)
J-10	Extension cable (50P, 0.5mm)	J-6082-434-A	For extension between the DD-119 board (CN303) and the FC-67 board (CN603)
J-11	Alignment disk (Two disks as pair) TFD2-1(+)	8-967-990-01	For FDD dynamic inspection and LCD system adjustments
	TFD2-2(–)	8-967-990-11	
J-12	Cleaning disk (OR-D29WA)	8-960-009-39	For FDD head cleaning (Note 1)
	Cleaning disk	Available on market	
J-13	Personal computer with Windows95/98 installed		For checking the recorded picture
J-14	Power cord	J-6082-223-A	For the battery end adjustment
J-15	Extension cable (16P, 0.5mm)	J-6082-357-A	For extension between the CD-207 board (CN401) and the FC-67 board (CN101)

Note 1: Usage and operating note
One or two seconds of momentary use of cleaning disk is sufficient such that FD is accessed momentarily by system control when main power is turn on. After cleaning, insert a FD for playback. When cleaning is insufficient, use a cleaning disk again.
Caution: Avoid using a cleaning disk excessively. Head can be broken.

Note 2: If the micro processor IC in the adjustment remote commander is not the new micro processor (UPD7503G-C56-12), The pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

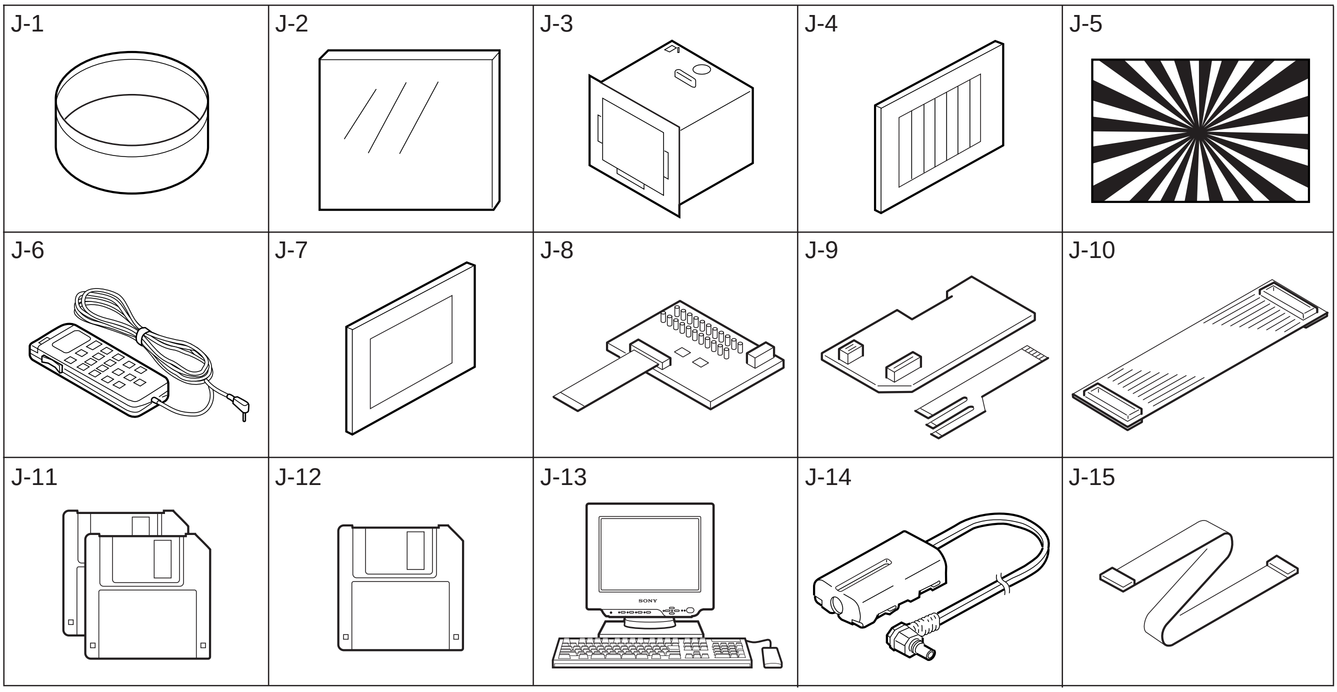


Fig. 5-1-1.

1-1-2. Preparations

Note 1: For details of how remove the cabinet and boards, refer to "2. DISASSEMBLY".

Note 2: When performing only the adjustments, the lens block and boards need not be disassembled.

1) Connect the equipment for adjustments according to Fig. 5-1-5.
2) Connect the Adjustment remote commander to PK-45 board CN701 via CPC-12 jig (J-6082-436-A). (See Fig. 5-1-3.)
3) The shutter button (RL-52 board) is need not be connected. To remove it, disconnect the following connectors.
   FC-67 board CN702 (7P, 1.0mm)
4) The ST block (Electronic viewfinder, FLASH UNIT and MIC UNIT) is need not be connected except during "Strobe White Balance Adjustment" and "Strobe Light Level and White Balance Check". To remove, disconnect the following connectors.
   1. FC-67 board CN001 (5P, 1.0mm)
   2. FC-67 board CN704 (13P, 1.0mm)
   3. FC-67 board CN601 (21P, 0.5mm)

Note 3: As disconnecting the FC-67 board CN602 means disconnecting the lithium 3V power supply (PK-45 board BH701), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the FC-67 board CN602 has been disconnected, the self-diagnosis data will be lost. Before disconnecting, note down the self-diagnosis data (data of page: 3, address: 2A to 3C). (Refer to "SELF-DIAGNOSIS FUNCTION" and "5-4.Service Mode" for the self-diagnosis data.)

Note 4: Setting the "Forced Camera Power ON" Mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.
   The above procedure will enable the camera power to be turned on. After completing adjustments, be sure to exit the "Forced Camera Power ON Mode".

Note 5: Exiting the "Forced Camera Power ON" Mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

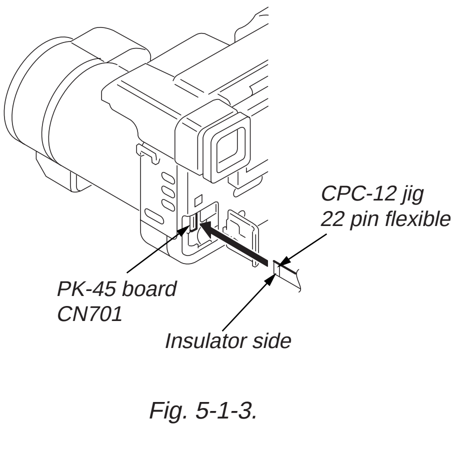


Fig. 5-1-3.

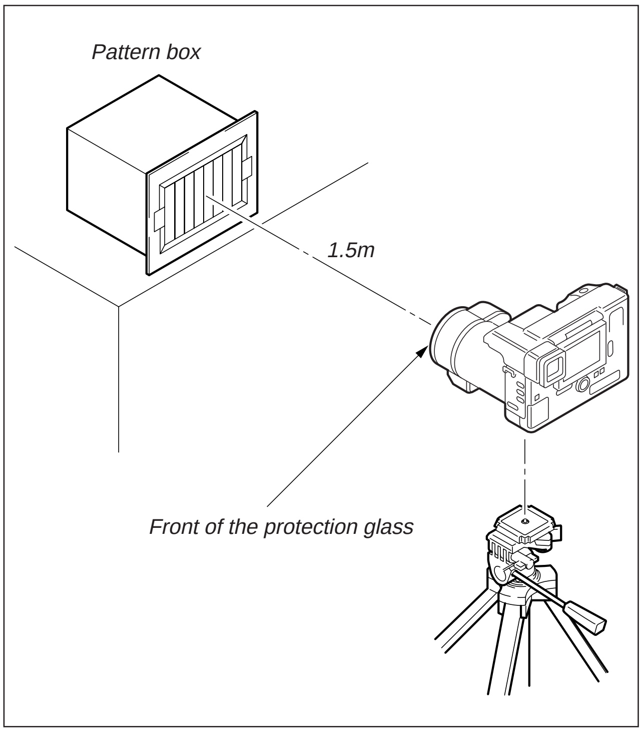


Fig. 5-1-2.

1-1-3. Discharging of the flashlight power supply

The capacitor which is used as power supply of flashlight is charged with 200V to 300V voltage. Discharge this voltage before starting adjustments in order to protect service engineers from electric shock during adjustment.

Discharge procedure

1. Press the FLASH button (PK-45 board S703) and turn off the FLASH LED (PK-45 board D702).
2. Fabricate the discharging jig as shown in Fig. 5-1-4 locally by yourself. Connect the discharging jig to the positive (+) and negative (-) terminal of the flash voltage charge capacitor. Allow ten seconds to discharge the voltage.

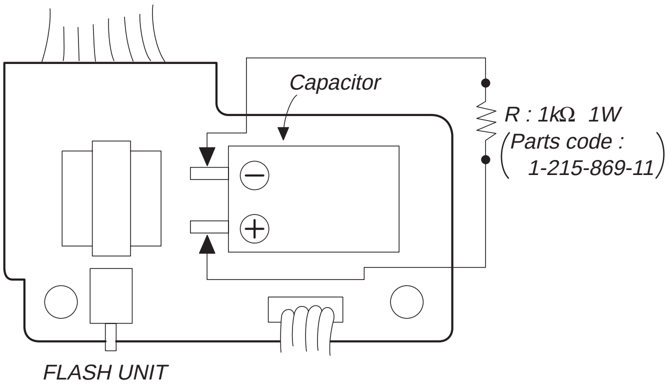
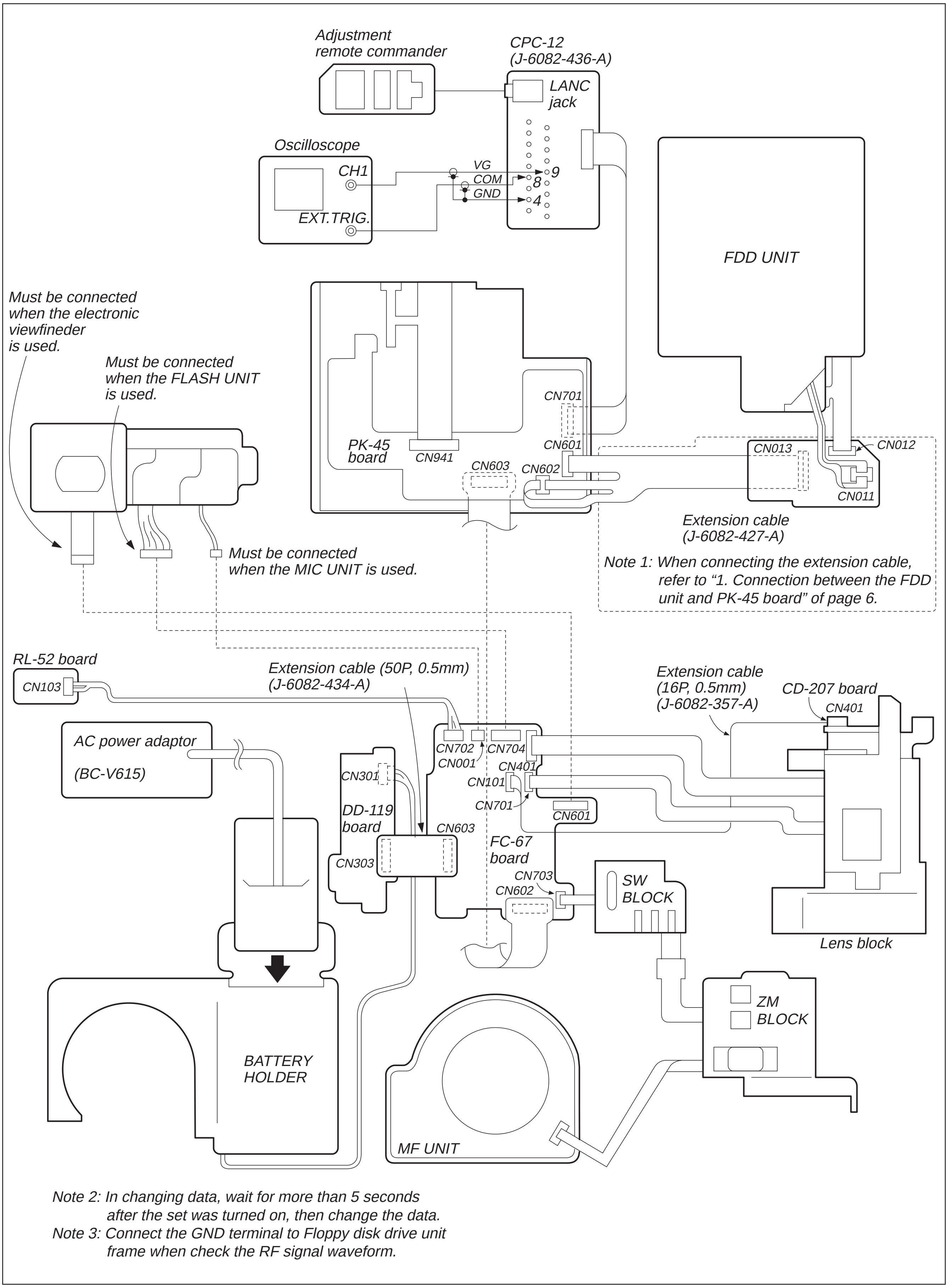


Fig. 5-1-4.



Adjustment
remote commander
CPC-12
(J-6082-436-A)
LANC
jack
Oscilloscope
CH1
VG
COM
GND
9
8
4
EXT.TRIG.
FDD UNIT
Must be connected
when the electronic
viewfineder
is used.
Must be connected
when the FLASH UNIT
is used.
CN701
PK-45
board
CN941
CN601
CN603
CN602
CN013
CN012
CN011
Extension cable
(J-6082-427-A)
Must be connected
when the MIC UNIT is used.
Note 1: When connecting the extension cable,
refer to “1. Connection between the FDD
unit and PK-45 board” of page 6.
RL-52 board
CN103
Extension cable (50P, 0.5mm)
(J-6082-434-A)
Extension cable
(16P, 0.5mm)
(J-6082-357-A)
CD-207 board
CN401
AC power adaptor
(BC-V615)
CN702
CN704
CN001
CN401
CN301
CN101
CN701
CN601
DD-119
board
CN603
CN303
FC-67
board
CN703
CN602
SW
BLOCK
Lens block
ZM
BLOCK
BATTERY
HOLDER
MF UNIT
Note 2: In changing data, wait for more than 5 seconds
after the set was turned on, then change the data.
Note 3: Connect the GND terminal to Floppy disk drive unit
frame when check the RF signal waveform.

Fig. 5-1-5.

1-1-4. Precaution

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

1. PLAY/STILL/MOVIE switch (PK-45 board S708, 709) .... STILL
2. FOCUS switch (FRONT SW block) .... MANUAL
3. STEADY SHOT switch (FRONT SW block) .... OFF
4. PROGRAM AE switch (SIDE SW block) .... Auto (No mark indicated on LCD)
5. WHITE BALANCE switch (SIDE SW block) .... Auto (No mark indicated on LCD)

2. Order of Adjustments

Basically carry out adjustments in the order given.

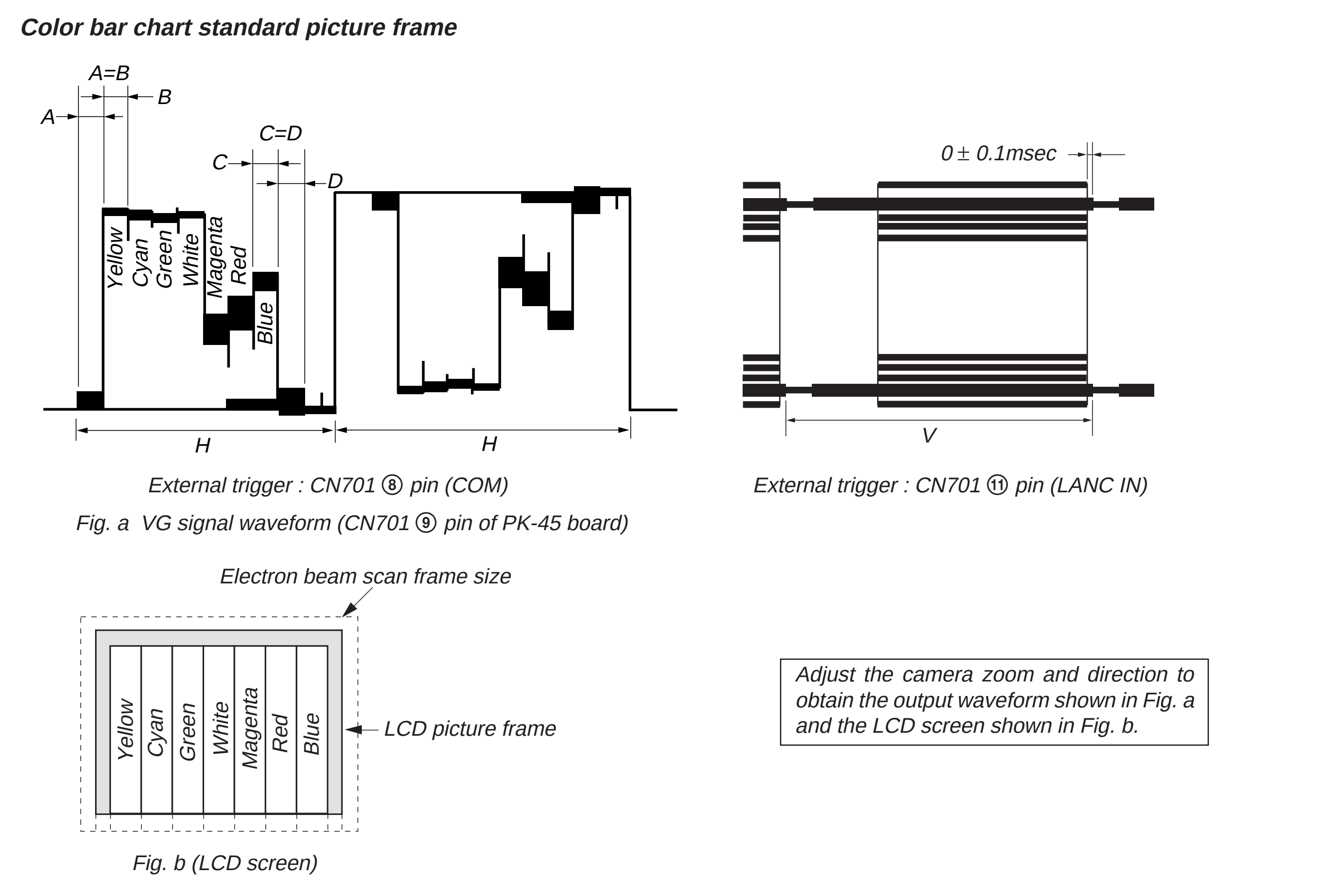


Fig. a VG signal waveform (CN701 ⑨ pin of PK-45 board)

Fig. b (LCD screen)

Fig.5-1-6.

3. Subjects

1) Color bar chart (Standard picture frame)
   When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 5-1-6. (Standard picture frame)
2) Clear chart (Standard picture frame)
   Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time.)
3) Flange back adjustment chart
   Make the chart shown in Fig. 5-1-7 using A0 size (1189mm × 841mm) black and white vellum paper.

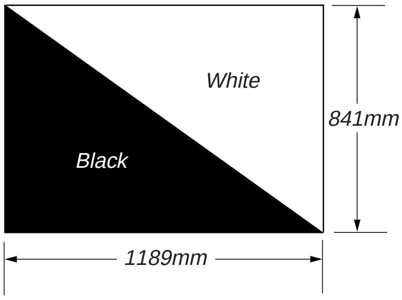


Fig. 5-1-7.

Note: Use matte vellum paper bigger than A0, and make sure the edges of the black and white paper joined together are not rough.

1-2. INITIALIZATION OF F, E PAGE DATA

1. Initializing the F, E Page Data

Note: If the F, E page data is initialized, all adjustments must be performed again.

Adjusting page	F
Adjusting Address	00 to FF
Adjusting page	E
Adjusting Address	00 to FF

Initializing Method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 00, and set data: 2D.
3) Select page: 3, address: 01, set data: 2D, and press the PAUSE button of the adjustment remote commander.
4) Select page: 3, address: 00, and check that the data is “00”.
5) Perform “Modification of F, E Page Data”.

2. Modification of F, E Page Data

If the F, E Page data has been initialized, change the data of the “Fixed data-2” address shown in the following tables by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note : If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of F, E Page data

1) Select page: 3, address: 00, and set data: 29.
2) Select page: 3, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.
3) Perform all adjustments.

3. F Page Table

Note: Fixed data-1 : Initialized data. (Refer to “1. Initializing the F, E Page Data”.)
Fixed data-2 : Modified data. (Refer to “2. Modification of F, E Page Data”.)

Address	Initial value	Remark
00 to 0F		
10	00	Test mode
11		Fixed data-1
12		Fixed data-2
13		Fixed data-1
14		(Initialized data)
15		
16		
17		
18	80	Battery end adj.
19	88	
1A	AD	
1B	C2	
1C	CD	
1D		Fixed data-1
1E		(Initialized data)
1F		
20		Fixed data-2
21		
22		
23		
24		Fixed data-1
25		(Initialized data)
26		Fixed data-2
27		
28		
29		
2A		Fixed data-1
2B		(Initialized data)
2C		Fixed data-2
2D		
2E		
2F		Fixed data-1
30	BB	Bright adj. (LCD)
31	6F	Color adj. (LCD)
32	77	White balance adj. (LCD)
33	7A	
34	DB	Contrast adj. (LCD)
35	6F	VCO adj. (LCD)
36	97	V-COM adj. (LCD)
37	78	D range adj. (LCD)
38	7C	V-COM level adj. (LCD)
39		Fixed data-1
3A		(Initialized data)
3B		Fixed data-2
3C		Fixed data-1
3D		(Initialized data)
3E		Fixed data-2
3F		Fixed data-1
40		(Initialized data)
41		Fixed data-2
42		Fixed data-1
43		(Initialized data)
44		
45		
46		Fixed data-2
47		Fixed data-1
48		(Initialized data)
49		
4A		
4B		
4C		
4D		
4E		
4F		
50		
51		Fixed data-2
52		Fixed data-1
53		(Initialized data)
54		

Address	Initial value	Remark
55		Fixed data-1
56		(Initialized data)
57		
58		
59		
5A		
5B		
5C		
5D		
5E		
5F		
60		
61		Fixed data-2
62		Fixed data-1
63		Fixed data-2
64		Fixed data-1
65		Fixed data-2
66		(Modified data, copy the data built in
67		the same model.)
68		Fixed data-1
69		(Initialized data)
6A		Fixed data-2
6B	80	White balance adj. (EVF)
6C	80	
6D		Fixed data-1
6E		Fixed data-2
6F	30	VCO adj. (EVF)
70	B0	Back light consumption current adj. (EVF)
71		Fixed data-1
72		Fixed data-2
73		
74	98	Bright adj. (EVF)
75	80	Contrast adj. (EVF)
76		Fixed data-1
77		(Initialized data)
78		
79		Fixed data-2
7A		Fixed data-1
7B		(Initialized data)
7C		
7D		
7E		
7F		
80		
81		
82		
83		
84		
85		
86		
87		Fixed data-2
88		Fixed data-1
89		Fixed data-2
8A		
8B		Fixed data-1
8C		(Initialized data)

Address	Initial value	Remark
8D		Fixed data-1
8E		(Initialized data)
8F		
90		
91		
92		
93		
94		
95		
96		
97		
98		
99		
9A		
9B		
9C		
9D		
9E		
9F		
A0		
A1		
A2		
A3		
A4		
A5		
A6		Fixed data-2
A7		
A8		Fixed data-1
A9		(Initialized data)
AA		
AB		
AC		
AD		
AE		
AF		
B0		
B1		
B2		
B3		
B4		
B5		
B6	56	Flange back adj.
B7	19	
B8	E0	
B9	21	
BA	E7	
BB	11	
BC		Fixed data-1
BD		(Initialized data)
BE	00	Flange back adj.
BF	00	
C0	23	
C1	00	
C2	19	
C3	00	
C4	11	

Address	Initial value	Remark
C5	00	Flange back adj.
C6		Fixed data-1
C7	78	HALL adj.
C8	80	
C9		Fixed data-1
CA	70	Light level adj.
CB	73	
CC	45	AWB standard data input
CD	39	
CE	06	
CF	60	
D0		Fixed data-1
D1		Fixed data-2
D2		
D3	B2	Auto white balance adj.
D4	46	
D5		Fixed data-2
D6		Fixed data-1 (Initialized data)
D7		
D8		
D9		
DA		
DB		
DC		
DD		
DE		
DF		
E0		
E1		
E2		
E3		
E4		
E5		
E6		Fixed data-2
E7		
E8		Fixed data-1 (Initialized data)
E9		
EA		Fixed data-2 (Modified data, copy the data built in the same model.)
EB		
EC		
ED		
EE		Fixed data-1 (Initialized data)
EF		
F0		
F1		Fixed data-2
F2		
F3		Fixed data-1 (Initialized data)
F4		
F5		Fixed data-2
F6		
F7		Fixed data-1 (Initialized data)
F8		
F9		
FA		
FB		Fixed data-2
FC		Fixed data-1
FD		Fixed data-1 (Initialized data)
FE		
FF		

Table. 5-1-1.

4. E Page table

Note: Fixed data-1 : Initialized data. (Refer to "1. Initializing the F, E Page Data".)
Fixed data-2 : Modified data. (Refer to "2. Modification of F, E Page Data".)

Address	Initial value	Remark
00		Fixed data-2 (Modified data, copy the data built in the same model.)
01		
02		
03		
04		Fixed data-1
05		Fixed data-2
06		
07		
08		
09		
0A		
0B		
0C		
0D		Fixed data-1 (Initialized data)
0E		
0F		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
1A		Fixed data-2
1B		Fixed data-1 (Initialized data)
1C		
1D		
1E	14	HALL adj.
1F		Fixed data-1 (Initialized data)
20		
21		Fixed data-2
22		Fixed data-1
23	F8	Color reproduction adj.
24	ED	
25	FF	
26	03	
27	F1	
28	3B	
29	27	
2A	08	
2B		Fixed data-1 (Initialized data)
2C		

Address	Initial value	Remark
2D		Fixed data-1
2E		(Initialized data)
2F		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
3A		
3B		
3C		
3D		
3E		
3F		
40		
41		
42	27	Strobe white balance adj.
43	77	
44		Fixed data-1
45		(Initialized data)
46		
47		
48		Fixed data-2
49		
4A		Fixed data-1
4B		(Initialized data)
4C		
4D		
4E		
4F		
50		
51		
52		
53		Fixed data-2
54		Fixed data-1
55		(Initialized data)
56		
57		
58		
59		
5A		
5B		
5C		
5D		
5E		
5F		
60		
61		
62		
63		
64		

Address	Initial value	Remark
65		Fixed data-1
66		(Initialized data)
67		
68		
69		Fixed data-2
6A		Fixed data-1
6B		(Initialized data)
6C		
6D		
6E		
6F		
70		
71		
72		
73		
74		Fixed data-2
75		Fixed data-1
76		Fixed data-2
77		
78		Fixed data-1
79		(Initialized data)
7A		
7B		
7C		
7D		
7E		Fixed data-2
7F		
80		Fixed data-1
81	00	Strobe light level adj.
82		Fixed data-1
83		(Initialized data)
84		
85		
86		
87		
88		
89		
8A		Fixed data-2
8B		Fixed data-1
8C		(Initialized data)
8D		
8E		
8F		
90		
91		
92		
93		
94		
95		
96		
97		
98		
99		
9A		Fixed data-2
9B		
9C		Fixed data-1

Address	Initial value	Remark
9D		Fixed data-1
9E		(Initialized data)
9F		
A0		
A1		
A2		
A3		
A4		
A5		
A6		
A7		
A8		
A9		
AA		
AB		
AC	62	Steady shot adj.
AD	62	
AE		Fixed data-1
AF		(Initialized data)
B0		
B1		
B2		Fixed data-2
B3		Fixed data-1
B4		(Initialized data)
B5		
B6		
B7		
B8		
B9		Fixed data-2
BA		Fixed data-1
BB		(Initialized data)
BC		
BD		
BE		
BF		
C0		
C1		
C2	00	CCD defect compensation
C3	00	
C4	00	
C5	00	
C6	00	
C7	00	
C8	00	
C9	00	
CA	00	
CB	00	
CC	00	
CD	00	
CE	00	
CF	00	
D0	00	
D1	00	
D2	00	
D3	00	
D4	00	

Address	Initial value	Remark
D5	00	CCD defect compensation
D6		Fixed data-1
D7		(Initialized data)
D8		
D9		
DA		
DB		
DC		
DD		
DE		
DF		
E0		Fixed data-2
E1		Fixed data-1
E2		Fixed data-2
E3		
E4		Fixed data-1
E5		(Initialized data)
E6		
E7		
E8		Fixed data-2
E9		Fixed data-1
EA		(Initialized data)
EB		
EC		
ED		
EE		
EF		
F0		
F1		
F2		
F3		
F4		
F5		
F6		
F7		
F8		
F9		
FA		
FB		
FC		
FD		
FE		
FF		

Table. 5-1-2.

1-3. CAMERA SYSTEM ADJUSTMENTS

1. Picture Frame Setting

Subject	Color bar chart standard picture frame (1.5m from the front of the protection glass)
Measurement Point	Pin ⑨ of CN701 (VG) of PK-45 board External trigger (Horizontal period) : Pin ⑧ of CN701 (COM) of PK-45 board External trigger (Vertical period) : Pin ⑪ of CN701 (LANC IN) of PK-45 board
Measuring Instrument	Oscilloscope and LCD screen
Specified Value	A=B, C=D, t=0 ± 0.1msec

Setting method:

1) Adjust the focus using the focus ring.
2) Adjust the zoom and the camera direction, and set to the specified position.
3) Mark the position of the picture frame on the LCD screen, and adjust the picture frame to this position in following adjustments using “Color bar chart standard picture frame”.

Check on the oscilloscope

1. Horizontal period

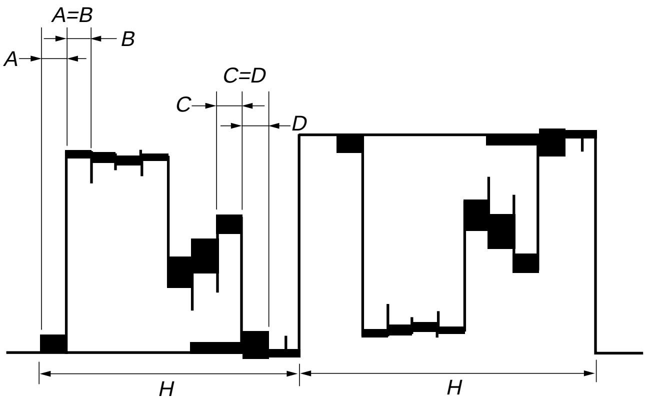


Fig. 5-1-8.

2. Vertical period

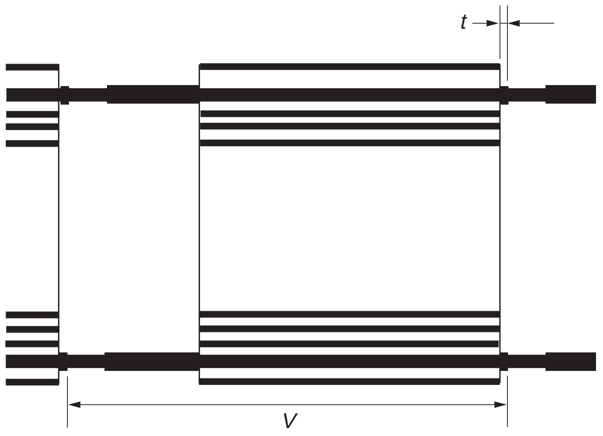


Fig. 5-1-9.

Check on the LCD screen

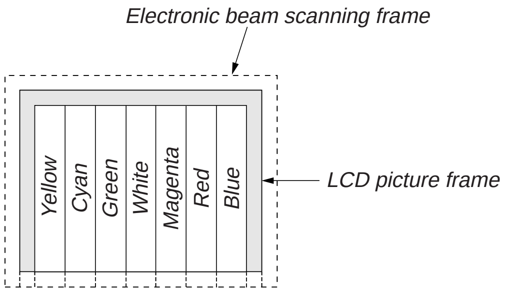


Fig. 5-1-10.

2. HALL Adjustment

For detecting the position of the lens iris, adjust the hall AMP gain and offset.

Subject	Not required	
Adjustment Page	F	E
Adjustment Address	C7, C8	1E

Note: Check that the data of page: 2, address: 02 is 00. If not, select page: 2, address: 01, set data: 00 and press the PAUSE button of the adjustment remote commander.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 2, address: 01, set data: 6D, and press the PAUSE button of the adjustment remote commander. (The HALL adjustment is performed and the adjustment data is stored in page: F, address: C7, C8 and page: E, address: 1E.)
3) Select page: 2, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

1) Select page: 2, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.

3. Flange Back Adjustment

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Flange back adjustment chart (2.0 m from the front of the protection glass) (Luminance: 350 ± 50 lux)
Measurement Point	Check operation on LCD screen
Measuring Instrument	
Adjustment Page	F
Adjustment Address	B6 to BB, BE to C5

Adjusting method:

1) Check that at both the zoom lens TELE end and WIDE end, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
2) Select page: 0, address: 01, and set data: 01.
3) Check that the data of page: F, address: B6 to BB, BE to C5 is the initial value (See table below).

Address	Data	Address	Data
B6	56	BF	00
B7	19	C0	23
B8	E0	C1	00
B9	21	C2	19
BA	E7	C3	00
BB	11	C4	11
BE	00	C5	00

4) Select page: 2, address: 02, and check that the data is “00”.
5) Select page: 2, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
6) Select page: 2, address: 01, set data: 15, and press the PAUSE button of the adjustment remote commander.
   (The adjustment data will be automatically input to page: F, addresses: B6 to BB, BE to C5.)
7) Select page: 2, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

1) Select page: 2, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.

4. Flange Back Check

Subject	Siemens star (2.0 m from the front of the protection glass) (Luminance : approx. 200 lux)
Measurement Point	Check operation on LCD screen
Measuring Instrument	
Specified Value	Focused at the TELE end and WIDE end.

Checking method:

1) Place the siemens star 2.0m from the front of the protection glass).
2) Shoot the siemens star with the zoom TELE end.
3) Turn on the auto focus.
4) Check that the lens is focused.
5) Select page: 2, address: 21, and set data: 10.
6) While observe the LCD screen, change the zoom to the WIDE end and check that the lens is focused.

Processing after Completing Adjustments

1) Select page: 2, address: 21, and set data: 00.

5. Light Level Adjustment

Adjust the standard LV value.

Subject	Clear chart (Color bar standard picture frame)
Adjustment Page	F
Adjustment Address	CA, CB

Note: Check that the data of page: 2, address: 02 is 00. If not, select page: 2, address: 01, set data: 00 and press the PAUSE button of the adjustment remote commander.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 2, address: 10, and set data: 58.
3) Select page: 2, address: 01, set data: 0D, and press the PAUSE button of the adjustment remote commander.
   (When the adjustment data is take in, the data will be automatically input to page: F, address: CA and CB.)
4) Select page: 2, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

1) Select page: 2, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 2, address: 10, and set data: 00.
3) Select page: 0, address: 01, and set data: 00.

6. Auto White Balance Standard Data Input

Subject	Clear chart (Color bar standard picture frame)
Adjustment Page	F
Adjustment Address	CC to CF

Note: Check that the data of page: 2, address: 02 is 00. If not, select page: 2, address: 01, set data: 00 and press the PAUSE button of the adjustment remote commander.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: E, address: 11, set data: 0A, and press the PAUSE button of the adjustment remote commander.
3) Select page: 2, address: 10, and set data: 58.
4) Select page: 2, address: 01, set data: 11, and press the PAUSE button.
5) Select page: 2, address: 01, set data: 0B, and press the PAUSE button.
   (When the standard data is take in, the data will be automatically input to page: F, address: CC to CF.)
6) Select page: 2, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

1) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: E, address: 11, set data: 18, and press the PAUSE button.
3) Select page: 2, address: 10, and set data: 00.
4) Select page: 0, address: 01, and set data: 00.

7. Auto White Balance Adjustment

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction
Measurement Point	DDS display of LCD screen (Note 2)
Measuring Instrument	
Adjustment Page	F
Adjustment Address	D3, D4
Specified Value	R ratio: 2B40 to 2BC0 B ratio: 5E40 to 5EC0

Note 1: Perform “Auto White Balance Standard Data Input” before this adjustment.
Note 2: The right four digits of the display data is the object data.

00:XX:XX
Object data

Adjusting method:

1) Place the C14 filter for color temperature correction on the lens.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: E, address: 11, set data: 0A, and press the PAUSE button of the adjustment remote commander.
4) Select page: F, address: 11, set data: 02, and press the PAUSE button.
5) Select page: 2, address: 10, and set data: 58.
6) Select page: 2, address: 01, and set data: 3F, and press the PAUSE button.
7) Select page: 0, address: 03, and set data: 04.
8) Select page: F, address: D3, change the data and adjust the average value of the DDS display data (Note 2) to the R ratio specified value.
9) Press the PAUSE button.
10) Select page: 0, address: 03, and set data: 05.
11) Select page: F, address: D4, change the data and adjust the average value of the DDS display data (Note 2) to the B ratio specified value.
12) Press the PAUSE button.

Processing after Completing Adjustments

1) Select page: E, address: 11, set data: 18, and press the PAUSE button of the adjustment remote commander.
2) Select page: F, address: 11, set data: 00, and press the PAUSE button.
3) Select page: 0, address: 01, and set data: 00.
4) Select page: 0, address: 03, and set data: 00.
5) Select page: 2, address: 01, set data: 00, and press the PAUSE button.
6) Select page: 2, address: 10, and set data: 00.

8. Color Reproduction Adjustment

Adjust the color separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart standard picture frame
Measurement Point	CHX: Pin ① of CN701 of PK-45 board (PANEL B-Y) CHY: Pin ③ of CN701 of PK-45 board (PANEL R-Y)
Measuring Instrument	Oscilloscope (X-Y mode)
Adjustment Page	E
Adjustment Address	23, 24, 25, 26, 27, 28, 29. 2A
Specified Value	All color luminance points should settle within each color reproduction frame.

Note 1: This adjustment should be carried out upon completion of "6. Auto White Balance Standard Data Input".

Switch setting:

1) FINDER/LCD .... LCD

Preparations before adjustments

1) Set to the PLAY mode.
2) Playback the color bar signal (MVC-001C.JPG) of the alignment disk (TFD2-1(+) or TFD2-2(–)).
3) Select page: 0, address: 01, and set data: 01.
4) Select page: 3, address: 02, and set data: 01.
5) Select page: F, address: E0, set data: 40, and press the PAUSE button of the adjustment remote commander.
6) Adjust the X POSITION and Y POSITION of the oscilloscope, and adjust the black luminance point to the center of the CRT screen.
7) Adjust the Xch GAIN and Ych GAIN of the oscilloscope, and settle each color luminance point in each color reproduction frame (frame of the thin line).
8) Repeat steps 6) to 7) until each color luminance point settled in each color reproduction frame (frame of the thin line).
9) Set to the camera (STILL) mode.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 2, address: 10, and set data: 59.
3) Select page: 2, address: 01, set data: 0F, and press the PAUSE button.
4) Adjust the X POSITION and Y POSITION of the oscilloscope, and adjust the black luminance point to the center of the CRT screen.
5) Change the data of page: E, address: 23, 24, 27 and 28, and settle the yellow and blue luminance points in each color reproduction frame (frame of the thick line).
   Note 2: Be sure to press the PAUSE button of the adjustment remote commander before changing the addresses. If not, the new data will not be written to the memory.
6) Adjust the X POSITION and Y POSITION of the oscilloscope, and adjust the black luminance point to the center of the CRT screen.
7) Change the data of page: E, address: 25, 26, 29 and 2A, and settle the red, magenta,cyan and green luminance points in each color reproduction frame (frame of the thick line).
   Note 2: Be sure to press the PAUSE button of the adjustment remote commander before changing the addresses. If not, the new data will not be written to the memory.
8) Repeat steps 4) to 7) until all color luminance point settled within each color reproduction frame (frame of the thick line).

Processing after Completing Adjustments

1) Select page: F, address: E0, set data: 1B, and press the PAUSE button .
2) Select page: 0, address: 01, set data: 00.
3) Select page: 2, address: 01, and set data: 00, and press the PAUSE button .
4) Select page: 2, address: 10, set data: 00.
5) Select page: 3, address: 02, and set data: 00.

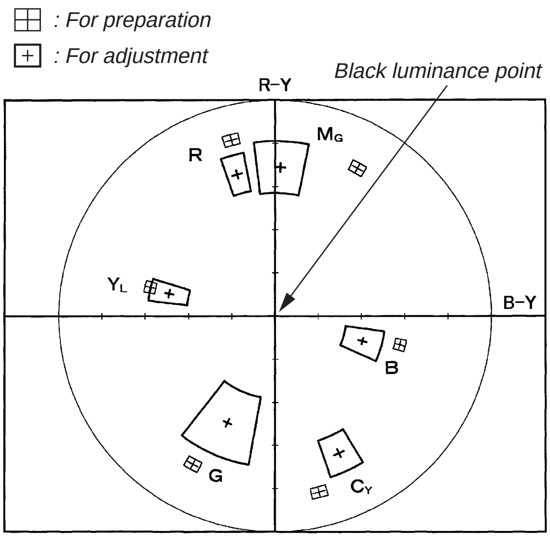


Fig. 5-1-11.

9. White Balance Check

Subject	Clear chart (Color bar standard picture frame)
Filter	ND filter 1.0 and 0.3
Measurement Point	Display data of page: 1
Measuring Instrument	Adjustment remote commander
Specified Value	R-Y data: FC to FF or 00 to 04 (Note1) B-Y data: FC to FF or 00 to 04 (Note1) Light level data: Without ND filter: 0E10 or more (Note2) With ND filter 1.3: 0D00 or less (Note2)

Note 1: Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX
- R-Y data (second XX)
- B-Y data (first XX)

Note 2: Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX
- Light level data

Checking method:

1) Check that the lens is not covered with the ND filter.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: E, address: 11, set data: 15, and press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 03, and set data: 02.
5) Select page: 2, address: 10, and set data: 58.
6) Select page: 2, address: 56, and set data: 56.
7) Select page: 2, address: 01, set data: 0F, and press the PAUSE button.
8) Select page: 1, and check that the R-Y data satisfies the specified value and the B-Y data satisfies the specified value. (Note1)
9) Select page: 0, address: 03, and set data: 06.
10) Select page: 1, and check that the light level data satisfies the specified value. (Note2)
11) Place the ND 1.3 filter on the lens.
12) Select page: 1, and check that the light level data satisfies the specified value. (Note2)

Processing after Completing Adjustments

1) Select page: 2, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 2, address: 10, and set data: 00.
3) Select page: 2, address: 56, and set data: 00.
4) Select page: E, address: 11, set data: 18, and press the PAUSE button.
5) Select page: 0, address: 01, and set data: 00.
6) Select page: 0, address: 03, and set data: 00.

10. Strobe Light Level Adjustment

Adjust the minimum gain when the strobe light flashes.

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	Display data of page : 1
Measuring Instrument	Adjustment remote commander
Adjustment Page	E
Adjustment Address	81
Specified Value	01E7 to 0267

Note: Displayed data of page 1 of the adjustment remote commander.

1 :XX:XX
- Object data

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: E, address: 70, set data: 03, and press the PAUSE button of the adjustment remote commander.
3) Select page: E, address: 71, set data: 00, and press the PAUSE button.
4) Select page: 2, address: 10, and set data: 58.
5) Select page: 2, address: 01, set data: 9D, and press the PAUSE button.
6) Select page: 1, and read the display data (Note). If the display data lies within the "0207" to "0247" range, perform "Processing after Completing Adjustments".
7) Select page: E, address: 81, change the data, and press the PAUSE button.
8) Select page: 1, and check that the display data lies within the "0207" to "0247" range. If not, repeat steps 7) to 8).
9) Select page: 2, address: 01, set data: 00, and press the PAUSE button.
10) Select page: 2, address: 01, set data: 9D, and press the PAUSE button.
11) Select page: 1, and check that the display data satisfies the specified value.

Processing after Completing Adjustments

1) Select page: E, address: 70, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: E, address: 71, set data: 00, and press the PAUSE button.
3) Select page: 0, address: 01, and set data: 00.
4) Select page: 2, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
5) Select page: 2, address: 10, and set data: 00.

11. Strobe White Balance Adjustment

Adjust the white balance when the strobe light flashes.

Subject	A plate which reflection rate is 18% (1.0m from the front of the protection glass)
Measurement Point	Display data of page : 1
Measuring Instrument	Adjustment remote commander
Adjustment Page	E
Adjustment Address	42, 43

Note 1: Perform this adjustment in the dark room or use a dark box.
Note 2: Any light other than the strobe light should not light up the plate.
Note 3: Displayed data of page 1 of the adjustment remote commander.

1 :XX:XX
- Strobe B data
- Strobe R data

Switch setting:

1) Flash emitter .... Open

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: E, address: 11, set data: 15, and press the PAUSE button of the adjustment remote commander.
3) Select page: 2, address: 10, and set data: 58.
4) Select page: 2, address: 56, and set data: 89.
5) Select page: 2, address: 90, and set data: 00.
6) Select page: 2, address: 91, and set data: 00.
7) Select page: 2, address: 92, and set data: 00.
8) Select page: 2, address: 93, and set data: 80.
9) Select page: 2, address: 01, set data: 79, and press the PAUSE button.
10) Select page: 2, address: 01, set data: 67, and press the PAUSE button.
11) Check the flashing of the strobe light.
12) Select page: 0, address: 03, and set data: 05.
13) Select page: 1, and read the strobe R data and strobe B data.
14) Select page: E, address: 42, set the strobe R data, and press the PAUSE button.
15) Select page: E, address: 43, set the strobe B data, and press the PAUSE button.

Processing after Completing Adjustments

1) Select page: E, address: 11, set data: 18, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.
3) Select page: 0, address: 03, and set data: 00.
4) Select page: 2, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
5) Select page: 2, address: 10, and set data: 00.
6) Select page: 2, address: 56, and set data: 00.
7) Select page: 2, address: 90, and set data: 00.
8) Select page: 2, address: 91, and set data: 00.
9) Select page: 2, address: 92, and set data: 00.
10) Select page: 2, address: 93, and set data: 00.

12. Strobe Light Level and White Balance Check

Check the light level regulation and the white balance when the strobe light flashes.

Subject	A plate which reflection rate is 18% (1.0m from the front of the protection glass)
Measurement Point	Display data of page : 1
Measuring Instrument	Adjustment remote commander
Specified Value	Y level data : 70 to 95 (Note 3) R-Y data : FA to FF or 00 to 06 (Note 4) B-Y data : FA to FF or 00 to 06 (Note 4)

Note 1: Perform this adjustment in the dark room or use a dark box.
Note 2: Any light other than the strobe light should not light up the plate.
Note 3: Display data of page 1 of the adjustment remote commander.

1 :00:XX
- Y level data

Note 4: Display data of page 1 of the adjustment remote commander.

1 :XX:XX
- B-Y data
- R-Y data

Switch setting:

1) Flash emitter .... Open

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: E, address: 11, set data: 15, and press the PAUSE button of the adjustment remote commander.
3) Select page: 2, address: 10, and set data: 58.
4) Select page: 2, address: 56, and set data: 89.
5) Select page: 2, address: 90, and set data: 00.
6) Select page: 2, address: 91, and set data: 00.
7) Select page: 2, address: 92, and set data: 00.
8) Select page: 2, address: 93, and set data: 80.
9) Select page: 2, address: 01, set data: 79, and press the PAUSE button.
10) Select page: 2, address: 01, set data: 67, and press the PAUSE button.
11) Check the flashing of the strobe light.
12) Select page: 0, address: 03, and set data: 01.
13) Select page: 1, and check that the Y level data satisfies the specified value. (Note 3).
14) Select page: 0, address: 03, and set data: 04.
15) Select page: 1, and check that the R-Y data satisfies the specified value and the B-Y data satisfies the specified value. (Note 4)

Processing after Completing Adjustments

1) Select page: E, address: 11, set data: 18, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.
3) Select page: 0, address: 03, and set data: 00.
4) Select page: 2, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
5) Select page: 2, address: 10, and set data: 00.
6) Select page: 2, address: 56, and set data: 00.
7) Select page: 2, address: 90, and set data: 00.
8) Select page: 2, address: 91, and set data: 00.
9) Select page: 2, address: 92, and set data: 00.
10) Select page: 2, address: 93, and set data: 00.

13. Steady shot adjustment

- Perform the steady shot adjustment only when replacing the angular velocity sensor. When the microprocessor, circuit, etc. malfunctions, do not perform this adjustment but check operations only.
- Record the sensitivity label of the angular velocity sensor (repair part), including to which side of the board it was attached to, etc. If it has been attached incorrectly, the image will move up and down or to the left and right during steady shot operation. Be sure to take note of this.

Precautions on the Parts Replacement

There are two types of repair parts.
Type A ENC03JA
Type B ENC03JB
Replace the broken sensor with a same type sensor. If replace with other type parts, the image will vibrate up and down or left and right during hand-shake correction operations. After replacing, re-adjust according to the adjusting method after replacement.

Precautions on Angular Velocity Sensor

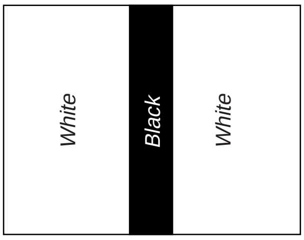
The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

Switch setting:
1) Steady Shot (FRONT SW block) .... ON

13-1. Steady Shot Adjustment (1)

Subject	Pattern A (1.5m from the front of the protection glass)
Measurement Point	Pin ② of CN701 of PK-45 board (PANEL Y) External trigger: Pin ⑦ of CN701 of PK-45 board (HSY)
Measuring Instrument	Oscilloscope (H period)
Adjustment Page	E
Adjustment Address	AD

Pattern A



A4 size (297mm × 210mm)

Fig. 5-1-12.

Adjusting method:
1) Expose pattern A with the zoom TELE end.
2) Adjust the inclination of the camera so that the vertical black line comes to the center of the screen.
3) Select page: 0, address: 01, and set data: 01.
4) Select page: E, address: BF, set data: 08, and press the pause button of the adjustment remote commander.
5) Adjust to the falling edge of the waveform with vertical scale on the oscilloscope. (Oscilloscope is H period).
6) Select page: E, address: BF, set data: 09, and press the pause button of the adjustment remote commander.
   At this time, measure the moving amount t1 (µsec) of the falling edge of the waveform.
7) Obtain D_{AD}' using the following equation (decimal calculation).
   D_{AD}' = (4.0/t1)×[1.01/(SE202 sensor sensitivity)]×94
   Note: The SE202 sensor sensitivity of the SE-78 board is labeled only on the repair part.
8) Raise D_{AD}' to a whole number, convert it to a hexadecimal digit and take this as D_{AD}. (Refer to Table 5-2-1. "Hexadecimal - Decimal conversion table" of "5-2. SERVICE MODE".)
9) Select page: F, address: AD, set data: D_{AD}, and press the pause button of the adjustment remote commander.
10) Select page: E, address: BF, set data: 08, and press the pause button.

Procedure after adjustment
1) Select page: 0, address: 01, and set data: 00.
2) Check that the steady shot operation is performed normally.

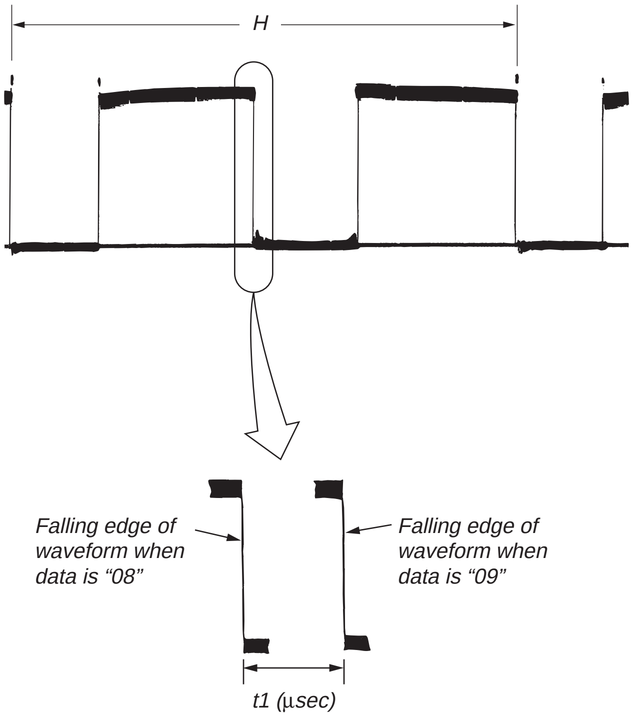
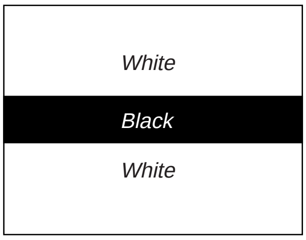


Fig. 5-1-13.

13-2. Steady Shot Adjustment (2)

Subject	Pattern B (1.5m from the front of the protection glass)
Measurement Point	Pin ② of CN701 of PK-45 board (PANEL Y) External trigger: Pin ⑪ of CN701 of PK-45 board (LANC IN)
Measuring Instrument	Oscilloscope (V period)
Adjustment Page	E
Adjustment Address	AC

Pattern B



A4 size (297mm × 210mm)

Fig. 5-1-14.

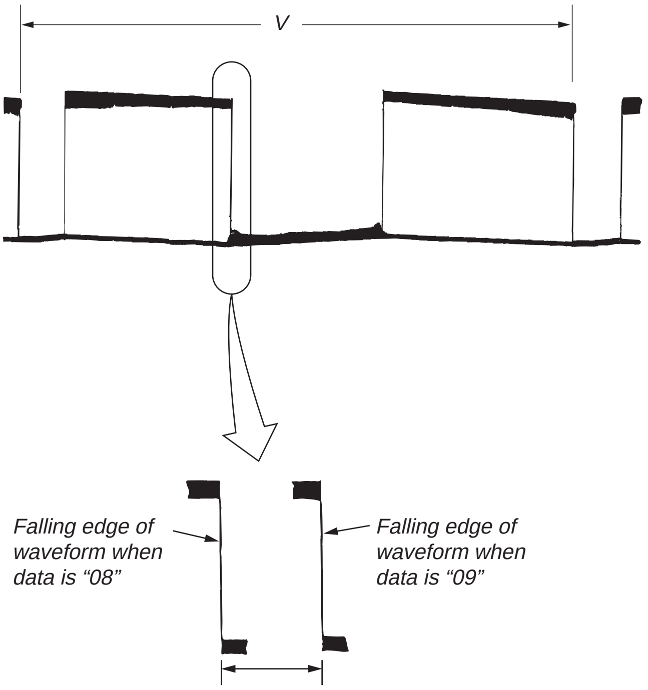


Fig. 5-1-15.

Adjusting method:

1) Expose pattern B with the zoom TELE end.
2) Adjust the inclination of the camera so that the horizontal black line comes to the center of the screen.
3) Select page: 0, address: 01, and set data: 01.
4) Select page: E, address: BE, set data: 08, and press the pause button of the adjustment remote commander.
5) Adjust to the falling edge of the waveform with vertical scale on the oscilloscope. (Oscilloscope is V period).
6) Select page: E, address: BE, set data: 09, and press the pause button of the adjustment remote commander.
   At this time, measure the moving amount t2 (msec) of the falling edge of the waveform.
7) Obtain DAC’ using the following equation (decimal calculation).
   DAC’ = (2.5/t2)×[1.00/ (SE201 sensor sensitivity)]×94
   Note: The SE201 sensor sensitivity of the SE-78 board is labeled only on the repair part.
8) Raise DAC’ to a whole number, convert it to a hexadecimal digit and take this as DAC. (Refer to Table 5-2-1. “Hexadecimal - Decimal conversion table” of “5-2. SERVICE MODE”.)
9) Select page: F, address: AC, set data: DAC, and press the pause button of the adjustment remote commander.
10) Select page: E, address: BE, set data: 08, and press the pause button.

Procedure after adjustment

1) Select page: 0, address: 01, and set data: 00.
2) Check that the steady shot operation is performed normally.

14. CCD Defect Compensation

Subject	Clear chart (40 cm from the front of the protection glass)
Adjustment Page	E
Adjustment Address	C2 to D5

Note 1: Check that there are no dust, no dirt and no reflection on the clear chart.
Note 2: Any subject other than the clear chart should not be in the screen.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Check that the data of page: E, address: C2 to D5 is “00”. If not, change the data to “00”, and press the PAUSE button.
3) Turn the power of the unit OFF and then ON.
4) Wait until the camera picture appear on the LCD screen.
5) Select page: 0, address: 01, and set data: 01.
6) Select page: E, address: 11, set data: 56, and press the PAUSE button of the adjustment remote commander.
7) Select page: E, address: C0, set data: 14, and press the PAUSE button.
8) Select page: 2, address: 01, set data: 8D, and press the PAUSE button.
   (When the compensation data is take in, the data will be automatically input to page: F, address: C2 to D5.)
9) Select page: 2, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

1) Select page: E, address: 11, set data: 18, and press the PAUSE button.
2) Select page: 0, address: 01, and set data: 00.
3) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.

15. CCD Defect Compensation Check

Subject	Clear chart (40 cm from the front of the protection glass)
Measurement Point	Display data of page : 3, address : FF
Measuring Instrument	Adjustment remote commander
Specified Value	00

Note 1: Check that there are no dust, no dirt and no reflection on the clear chart.
Note 2: Any subject other than the clear chart should not be in the screen.
Note 3: This adjustment should be carried out upon completion of “14. CCD Defect Compensation”.

Adjusting method:

1) Turn the power of the unit OFF and then ON.
2) Wait until the camera picture appear on the LCD screen.
3) Select page: 0, address: 01, and set data: 01.
4) Select page: E, address: 11, set data: 56, and press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: FA, and set data: 45.
6) Select page: 2, address: 01, set data: 89, and press the PAUSE button.
7) Select page: 3, address: 4C, and check that the data changed to “01”.
8) Select page: 3, address: FF, and check that the data is “00”.
   Note: If the data of page: 3, address: FF is “01” to “0F”, the CCD defect compensation is defective.

Processing after Completing Adjustments

1) Select page: E, address: 11, set data: 18, and press the PAUSE button.
2) Select page: 0, address: 01, and set data: 00.
3) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.

1-4. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENT

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3: Set the FINDER/LCD switch to the FINDER side.

[Adjusting connector]

Most of the measuring points for adjusting the color electronic viewfinder system are concentrated in CN701 of the PK-45 board.
Connect the Measuring Instruments via the CPC-12 jig (J-6082-436-A).
The following table shows the Pin No. and signal name of CN701.

Pin No.	Signal Name	Pin No.	Signal Name
1	PANEL B-Y	12	LANC OUT
2	PANEL Y	13	XPOWER SW
3	PANEL R-Y	14	MAKER RECOG
4	REG GND	15	INDEX
5	JIG XHD	16	TRACK 00
6	JIG XVD	17	JIG VCO
7	HSY	18	FDD RF
8	COM	19	EVF BL+
9	VG	20	EVF BL 4.75V
10	UNREG	21	EVF VG
11	LANC IN	22	EVF VCO

Table 5-1-9.

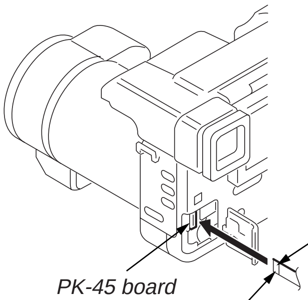


Fig. 5-1-16.

[Alignment disk]

Use the alignment disks (two disks as pair) shown in below.
Disk-1: TFD2-1(+) (Parts code; 8-967-990-01)
Disk-2: TFD2-2(–) (Parts code; 8-967-990-11)

Contents of alignment disk
TFD2-1(+): (Common signal) + (+17.5 µm alignment)
TFD2-2(–): (Common signal) + (–17.5 µm alignment)

Common signal

File name	Signal
MVC-001C.JPG	Color bars
MVC-002M.JPG	Monoscope
MVC-003V.JPG	V-COM adjustment signal
MVC-004W.JPG	100% white
MVC-005H.JPG	50% white
MVC-006T.JPG	Stair-step signal of 10 step
MVC-007R.JPG	Red single color
MVC-008G.JPG	Green single color
MVC-009B.JPG	Blue single color
MVC-010D.JPG	Camera color bars
MVC-011N.JPG	Camera monoscope

1. EVF Initial Data Input

Mode	Playback
Signal	Arbitrary
Adjustment Page	F
Adjustment Address	6B, 6C, 6F, 70, 74, 75, E0

Adjusting method:

1) Select page: 0, address:01, and set data: 01.
2) Select page: F, and input the data in the following table.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data	Remark
6B	80	White balance adjustment
6C	80	White balance adjustment
6F	30	VCO adjustment
70	B0	Backlight consumption current adjustment
74	98	Bright adjustment
75	80	Contrast adjustment
E0	1B	Fixed value

Processing after Completing Adjustment

1) Select page: 3, address: 00, and set data: 29.
2) Select page: 3, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.

2. VCO Adjustment (VF-131 board)

Set the VCO free-run frequency. If deviated, the LCD screen will be blurred.

Mode	Playback
Signal	Arbitrary
Measurement Point	Pin ㉒ of CN701 (EVF VCO) on PK-45 board
Measuring Instrument	Oscilloscope (DC range)
Adjustment Page	F
Adjustment Address	6F
Specified Value	A = 1.8 ± 0.1V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Check the GND level of the oscilloscope.
4) Select page: F, address: 6F, change the data and set the voltage (A) to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 02, and set data: 00.
7) Select page: 0, address: 01, and set data: 00.

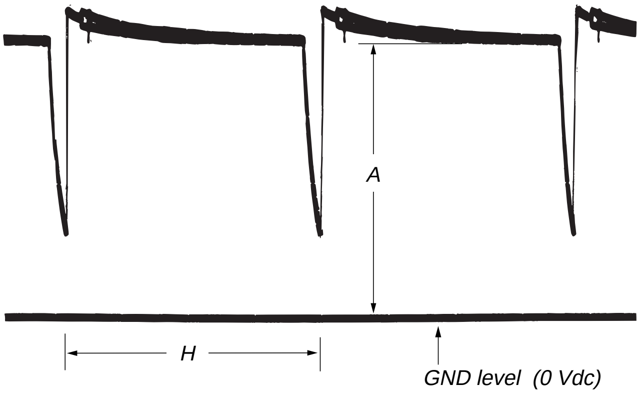


Fig. 5-1-17.

3. Bright Adjustment (VF-131 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Playback
Signal	Alignment disk (TFD2-1(+) or TFD2-2(–)): Stair step signal of 10 steps (MVC-006T.JPG)
Measurement Point	Pin ㉑ of CN701 (EVF VG) on PK-45 board
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	74
Specified Value	A = 7.2 ± 0.1V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: F, address: 74, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
4) Press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: 02, and set data: 00.
6) Select page: 0, address: 01, and set data: 00.

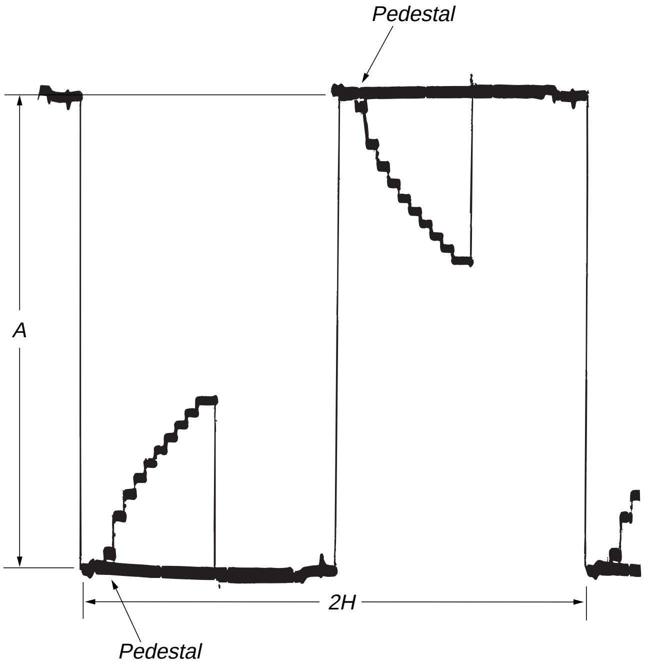


Fig. 5-1-18.

4. Contrast Adjustment (VF-131 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Playback
Signal	Alignment disk (TFD2-1(+) or TFD2-2(–)): Stair step signal of 10 steps (MVC-006T.JPG)
Measurement Point	Pin ㉑ of CN701 (EVF VG) on PK-45 board
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	75
Specified Value	A = 2.12 ± 0.1V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: F, address: 75, change the data and set the voltage (A) between the pedestal and 10 steps peak to the specified value.
4) Press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: 02, and set data: 00.
6) Select page: 0, address: 01, and set data: 00.

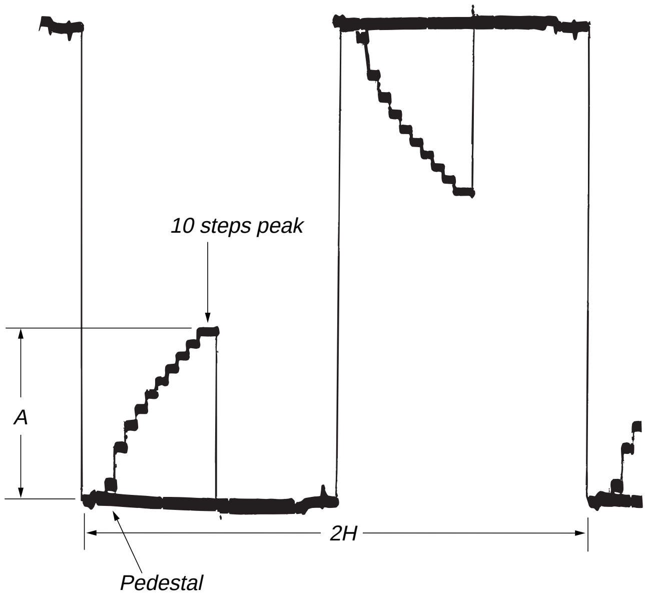


Fig. 5-1-19.

5. Backlight Consumption Current Adjustment (VF-131 board)

Set the backlight luminance and color temperature.
If deviated, the image may become dark or bright.

Mode	Playback
Signal	Alignment disk (TFD2-1(+) or TFD2-2(–)): Stair step signal of 10 steps (MVC-006T.JPG)
Measurement Point	+ Probe: Pin ⑲ of CN701 (EVF BL+) on PK-45 board – Probe: Pin ⑳ of CN701 (EVF BL 4.75V) on PK-45 board
Measuring Instrument	Digital voltmeter
Adjustment Page	F
Adjustment Address	70
Specified Value	A = 20 ± 1mVdc

Note: Adjust 30 seconds after running on the power supply.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 70, change the data and set the voltage difference (A) between Pin ⑲ of CN701 (EVF BL+) and Pin ⑳ of CN701 (EVF BL 4.75V) to the specified value.
3) Press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

6. White Balance Adjustment (VF-131 board)

Correct the white balance.
If deviated, the EVF screen color cannot be reproduced.

Mode	Playback
Signal	No signal
Measurement Point	Check on EVF screen
Measuring Instrument	
Adjustment Page	F
Adjustment Address	6B, 6C
Specified Value	The EVF screen should not be colored.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: 3, address: 18, and set data: 01.
4) Select page: 3, address: 19, and set data: 00.
5) Select page: F, address: 6B and 6C, set the data to the initial value.
   Note: Press the PAUSE button of the adjustment remote commander each time to set the data.

Address	6B	6C
Data	80	80

6) Check that the EVF screen is not colored. If colored, change the data of page: F, address: 6B and 6C so that the EVF screen is not colored.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
7) Select page: 3, address: 02, and set data: 00.
8) Select page: 3, address: 18, and set data: 00.
9) Select page: 0, address: 01, and set data: 00.

1-5. LCD SYSTEM ADJUSTMENT

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3: Set the LCD BRIGHT to the center.
Set the FINDER/LCD switch to the LCD side.

Note 4: The shutter button (RL-52 board) is need not be connected. To remove it, disconnect the following connectors.
FC-67 board CN702 (7P, 1.0mm)

Note 5: The ST block (Electronic viewfinder, FRASH UNIT and MIC UNIT) is need not be connected. To remove, disconnect the following connectors.
1. FC-67 board CN001 (5P, 1.0mm)
2. FC-67 board CN704 (13P, 1.0mm)
3. FC-67 board CN601 (21P, 0.5mm)

Note 6: The lens block (LENS UNIT, CD-207 board, VP-49 board and SE-78 board) and operation switch block (MF UNIT, FRONT SW and SIDE SW) are need not be connected. To remove them , disconnect the following connectors.
1. FC-67 board CN703 (10P, 0.5mm)
2. FC-67 board CN401 (20P, 0.5mm)
3. FC-67 board CN701 (14P, 0.5mm)
4. FC-67 board CN101 (16P, 0.5mm)

[Adjusting connector]

Most of the measuring points for adjusting the LCD system are concentrated in CN701 of the PK-45 board.
Connect the Measuring Instruments via the CPC-12 jig (J-6082-436-A).
Refer to “1-4. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENT” for further details.

[Alignment disk]

Use the alignment disks (two disks as pair) shown in below.
Disk-1: TFD2-1(+) (Parts code; 8-967-990-01)
Disk-2: TFD2-2(–) (Parts code; 8-967-990-11)

Refer to “1-4. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENT” for the contents of alignment disk.

1. LCD Initial Data Input

Mode	Playback
Signal	Arbitrary
Adjustment Page	F
Adjustment Address	30 to 38, 3B to 46, 4A, E0

Adjusting method:

1) Select page: 0, address:01, and set data: 01.
2) Select page: F, and input the data in the following table.
Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data	Remark
30	BB	Bright adjustment
31	6F	Color adjustment
32	77	White balance adjustment
33	7A	White balance adjustment
34	DB	Contrast adjustment
35	6F	VCO adjustment
36	97	V-COM adjustment
37	78	D range adjustment
38	7C	V-COM level adjustment
3B	5E	Fixed value
3C	22	Fixed value
3D	11	Fixed value
3E	2E	Fixed value
3F	00	Fixed value
40	11	Fixed value
41	15	Fixed value
42	00	Fixed value
43	00	Fixed value
44	44	Fixed value
45	48	Fixed value
46	33	Fixed value
4A	9A	Fixed value
E0	1B	Fixed value

Processing after Completing Adjustment

1) Select page: 3, address: 00, and set data: 29.
2) Select page: 3, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.

2. VCO Adjustment (PK-45 board)

Set the VCO free-run frequency. If deviated, the LCD screen will be blurred.

Mode	Playback
Signal	arbitrary
Measurement Point	Pin ⑦ of CN701 (HSY)
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	35
Specified Value	f = 13200 ± 30Hz

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: 3, address: 19, and set data: 20.
4) Select page: F, address: 35, change the data and set the frequency (f) to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 02, and set data: 00.
7) Select page: 3, address: 19, and set data: 00.
8) Select page: 0, address: 01, and set data: 00.

3. D range Adjustment (PK-45 board)

Set the D range of the LCD driver to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

Mode	Playback
Signa	Alignment disk (TFD2-1(+) or TFD2-2(–)): Stair step signal of 10 steps (MVC-006T.JPG)
Measurement Point	Pin ⑨ of CN701 (VG) External trigger: Pin ⑧ of CN701 (COM)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	37
Specified Value	A = 3.20 ± 0.05V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: F, address: 37, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
4) Press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: 02, and set data: 00.
6) Select page: 0, address: 01, and set data: 00.

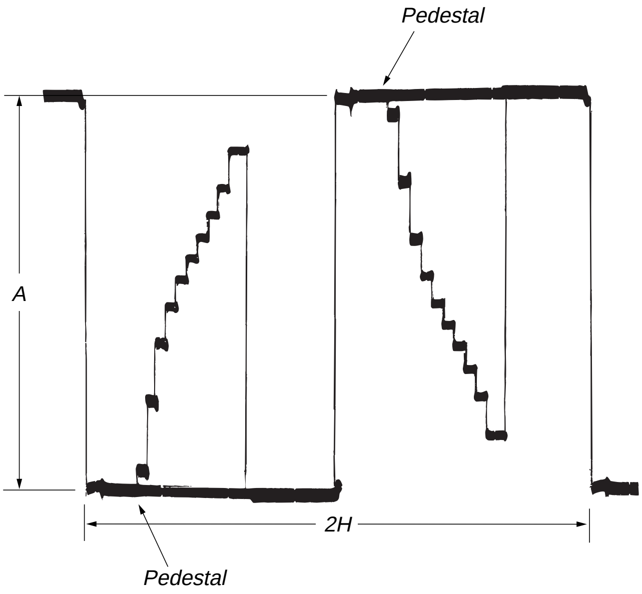


Fig. 5-1-20.

4. Bright Adjustment (PK-45 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Playback
Signal	Alignment disk (TFD2-1(+) or TFD2-2(–)): Stair step signal of 10 steps (MVC-006T.JPG)
Measurement Point	Pin ⑨ of CN701 (VG) External trigger: Pin ⑧ of CN701 (COM)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	30
Specified Value	A = 2.00 ± 0.05V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: 3, address: 19, and set data: 08.
4) Select page: F, address: 30, change the data and set the voltage (A) between the pedestal and white level to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 02, and set data: 00.
7) Select page: 3, address: 19, and set data: 00.
8) Select page: 0, address: 01, and set data: 00.

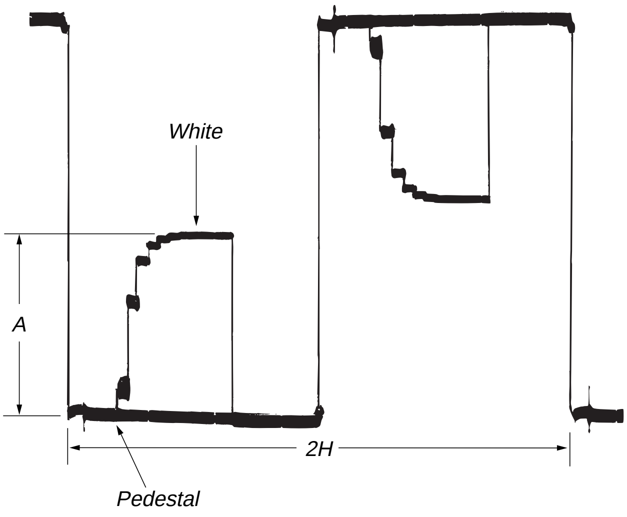


Fig. 5-1-21.

5. Contrast Adjustment (PK-45 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Playback
Signal	Alignment disk (TFD2-1(+) or TFD2-2(–)): Stair step signal of 10 steps (MVC-006T.JPG)
Measurement Point	Pin ⑨ of CN701 (VG) External trigger: Pin ⑧ of CN701 (COM)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	34
Specified Value	A = 3.05 ± 0.07V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: F, address: 34, change the data and set the voltage (A) between the 0 IRE (pedestal) and 100 IRE to the specified value.
4) Press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: 02, and set data: 00.
6) Select page: 0, address: 01, and set data: 00.

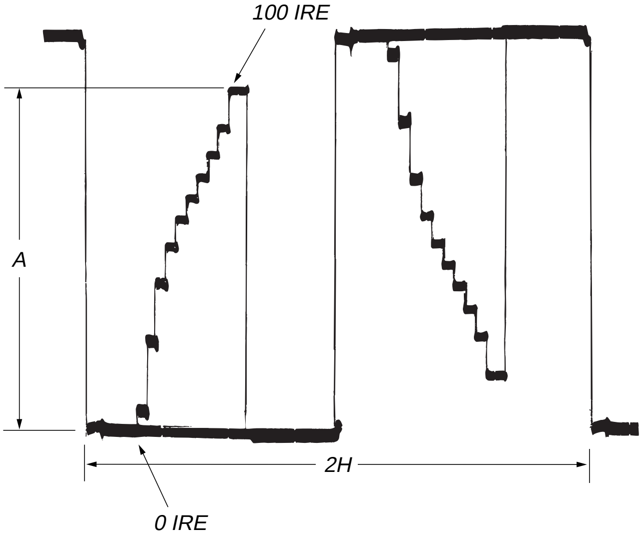


Fig. 5-1-22.

6. Color Adjustment (PK-45 board)

Set the color saturation to the standard value. If deviated, the color will be to dark or light.

Mode	Playback
Signal	Alignment disk (TFD2-1(+) or TFD2-2(–)): Color bar signal (MVC-001C.JPG)
Measurement Point	Pin ⑨ of CN701 (VG) External trigger: Pin ⑧ of CN701 (COM)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	31
Specified Value	A = 0.00 ± 0.05V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: F, address: 31, change the data and set the voltage (A) between the white and green to the specified value.
4) Press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: 02, and set data: 00.
6) Select page: 0, address: 01, and set data: 00.

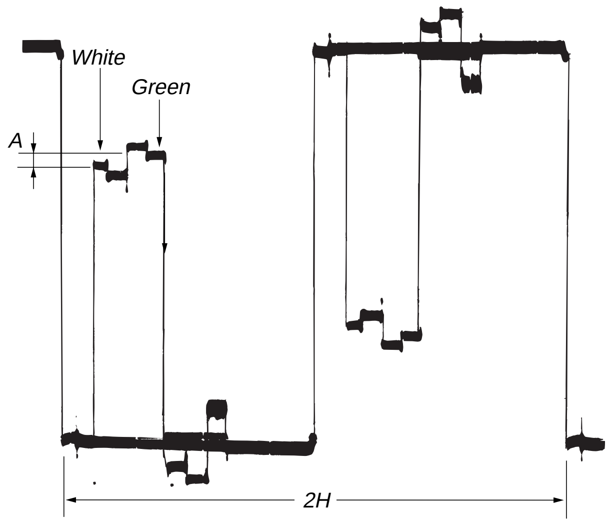


Fig. 5-1-23.

7. V-COM Level Adjustment (PK-45 board)

Set the common electrode drive signal level of LCD to the specified value.

Mode	Playback
Signal	No signal
Measurement Point	Pin ⑧ of CN701 (COM)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	38
Specified Value	A = 6.25 ± 0.05V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: F, address: 38, change the data and set the V-COM signal level (A) to the specified value.
4) Press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: 02, and set data: 00.
6) Select page: 0, address: 01, and set data: 00.

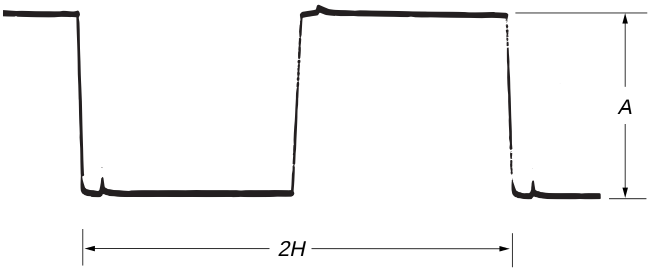


Fig. 5-1-24.

8. V-COM Adjustment (PK-45 board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.
If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

Mode	Playback
Signal	No signal
Measurement Point	Check on LCD screen
Measuring Instrument	
Adjustment Page	F
Adjustment Address	36
Specified Value	The brightness difference between the section A and section B is minimum.

Note 1: Perform “Bright Adjustment” and “Contrast Adjustment” before this adjustment.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: 3, address: 18, and set data: 01.
4) Select page: 3, address: 19, and set data: 10.
5) Select page: F, address: 36, change the data so that the brightness of the section A and that of the section B is equal.
6) Press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 02, and set data: 00.
8) Select page: 3, address: 18, and set data: 00.
9) Select page: 3, address: 19, and set data: 00.
10) Select page: 0, address: 01, and set data: 00.

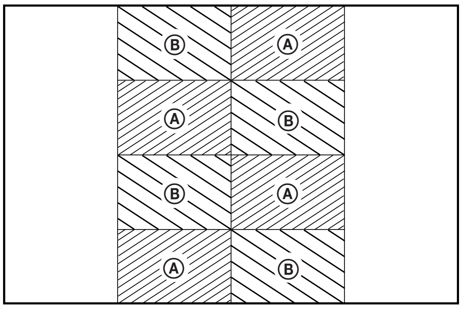


Fig. 5-1-25.

9. White Balance Adjustment (PK-45 board)

Correct the white balance.
If deviated, the LCD screen color cannot be reproduced.

Mode	Playback
Signal	No signal
Measurement Point	Check on LCD screen
Measuring Instrument	
Adjustment Page	F
Adjustment Address	32, 33
Specified Value	The LCD screen should not be colored.

Note 1: Check the white balance only when replacing the following parts. If necessary, adjust them.
1. LCD panel
2. Light induction plate
3. IC802

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 02, and set data: 01.
3) Select page: 3, address: 18, and set data: 01.
4) Select page: 3, address: 19, and set data: 00.
5) Select page: F, address: 32 and 33, set the data to the initial value.
   Note: Press the PAUSE button of the adjustment remote commander each time to set the data.

Address	32	33
Data	77	7A

6) Check that the LCD screen is not colored. If colored, change the data of page: F, address: 32 and 33 so that the LCD screen is not colored.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
7) Select page: 3, address: 02, and set data: 00.
8) Select page: 3, address: 18, and set data: 00.
9) Select page: 0, address: 01, and set data: 00.

1-6. SYSTEM CONTROL SYSTEM ADJUSTMENT

1. Battery End Adjustment (FC-67 board)

Set the battery end voltage.
If the voltage is incorrect, the life of the battery will shorten.
The image at the battery end will also be rough.

Mode	Camera
Subject	All black (Cover the lens with a black cap)
Measurement Point	LCD display of the adjustment remote commander
Measuring Instrument	
Adjustment Page	F
Adjustment Address	18 to 1C

Switch setting

1) AUTO FOCUS / MANUAL .... MANUAL

Connection:

1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 5-1-26.

Adjusting method:

1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is 6.1 ± 0.1Vdc.
2) Turn on the HOLD switch of the adjustment remote commander.
3) Turn on the power.
4) Select page: 0, address: 01, and set data: 01.
5) Decrease the output voltage of the regulated power supply so that the digital voltmeter display is 5.80 ± 0.01Vdc.
6) Select page: 3, address: 0D, read the data, and this data is named Dref.
7) Select page: F, address: 18, set data: Dref, and then press the PAUSE button of the adjustment remote commander.
8) Convert Dref to decimal notation, and obtain Dref'. (Refer to Table 5-2-1. "Hexadecimal-decimal conversion table" of "5-2.Service mode")
9) Calculate D_{19}', D_{1A}', D_{1B}' and D_{1C}' using following equations (decimal calculation), convert it to a hexadecimal number, and input each adjustment address.

   Address: 19 D_{19}' = Dref'+8
   Address: 1A D_{1A}' = Dref'+23
   Address: 1B D_{1B}' = Dref'+44
   Address: 1C D_{1C}' = Dref'+55

   Note 3: After setting each data, be sure to press the PAUSE button.
10) Select page: 0, address: 01, and set data: 00.

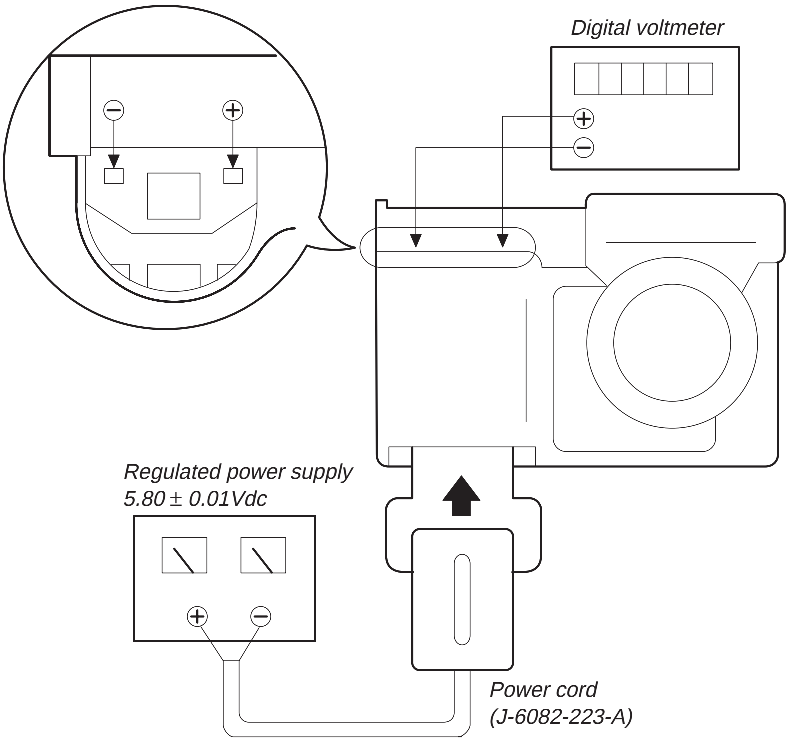


Fig. 5-1-26.

2. Alignment check (FDD UNIT)

Confirm that the FDD alignment is within the specifications.
If deviated, reading and writing data from and to the floppy disk become impossible. Or compatibility of the floppy disk with other machines can be lost.

Mode	Playback
Signal	Alignment disks (TFD2-1(+) and TFD2-2(–)): Arbitrary signal
Measurement Point	Check on LCD screen
Measuring Instrument	
Specified Value	The playback pictures should be normal.

Adjusting method:

1) Disconnect the adjustment commander.
2) Insert the alignment disk TFD2-1(+) (+17.5 µm).
3) Playback arbitrary signal and check that the playback picture is normal.
4) Insert the alignment disk TFD2-2(–) (–17.5 µm).
5) Playback arbitrary signal and check that the playback picture is normal.

5-2. SERVICE MODE

2-1. ADJUSTMENT REMOTE COMMANDER

The adjustment remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the adjustment remote commander

1) Connect the adjustment remote commander to CN701 of PK-45 board via CPC-12 jig (J-6082-436-A).
2) Set the HOLD switch of the adjustment remote commander to "HOLD" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander will display as shown in Fig. 5-2-1.

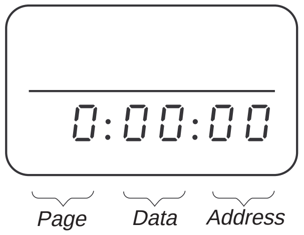


Fig. 5-2-1.

3) Operate the adjustment remote commander as follows.
   - Changing the page
     The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD Display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

   - Changing the address
     The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The PAUSE button must be pressed to write the adjustment data (E, F page) in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed.)
4) After completing all adjustments, turn off the main power supply once.

2. Precautions upon using the adjustment remote commander

Mishandling of the adjustment remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

2-2. DATA PROCESS

The calculation of the DDS display and the adjustment remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Indicates the hexadecimal-decimal conversion table.

Hexadecimal-decimal Conversion Table ②

	Upper digit of hexadecimal \ Lower digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	D (d)	E (E)	F (F)
	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
	4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
	5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
	6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
	7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
	8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
	9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
	A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
①	B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
	C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
	D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
	E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
	F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note: The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.

(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

Table. 5-2-1.

2-3. SERVICE MODE

1. Setting the Test Mode

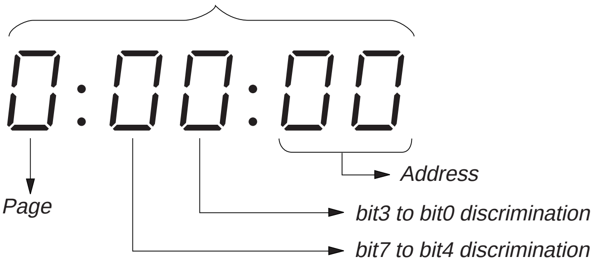
Page F	Address 10

Data	Function
00	Normal
01	Forced camera power ON
02	Forced Player power ON

- Before setting the data , select page: 0, address: 01, and set data: 01.
- For page F, the data set is recorded in the non-volatile memory by pressing the PAUSE button of the adjustment remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off.
- After completing adjustments/repairs, be sure to return the data of this address to 00, and press the PAUSE button of the adjustment remote commander.
  Select page: 0, address: 01, and set data: 00.

2. Bit value discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for following items. Use the table below to discriminate if the bit value is “1” or “0”.



	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (A)	1	0	1	0
	B (b)	1	0	1	1
	C (c)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

Example: If “8E” is displayed on the adjustment remote commander, the bit values for bit7 to bit4 are shown in the Ⓐ column, and the bit values for bit3 to bit0 are shown in the Ⓑ column.

3. Switch check (1)

Page 3	Address 23

Bit	Function	When bit value=1	When bit value=0
0	POWER SW (PK-45 board S702)	OFF	ON
1	XCAM/PB SW (PK-45 board S708)	ON	OFF
2	SHUTTER SW (RL-52 board S101)	OFF	ON
3	SHUTTR AE LOCK SW (RL-52 board S101)	OFF	ON
4	DISK IN SW (FDD UNIT)	DISK IN	NO DISK
5			
6			
7	MOVIE/XSTILL SW (PK-45 board S709)	ON	OFF

Using method:

1) Select page:3, address: 23.
2) By discriminating the bit value of display data, the state of the switches can be discriminated.

4. Switch check (2)

Page 3	Address 13 to 17

Using method:

1) Select page:3, address: 13 to 17.
2) By discriminating the display data, the pressed key can be discriminated.

Address	Data						
	About“00”	About“29”	About“54”	About“82”	About“A6”	About“E5”	About“FF”
13 (KEY AD0) (IC702 (81))	VOLUME + (FP-70 flexible)	VOLUME – (FP-70 flexible)	BRIGHT + (FP-70 flexible)	BRIGHT – (FP-70 flexible)		PANEL REVERSE (FP-69 flexible) and (PK-45 board S971)	No key input
14 (KEY AD1) (IC702 (82))	CONTROL DOWN (PK-45 board) (S701)	CONTROL UP (PK-45 board) (S701)	DISPLAY (PK-45 board) (S704)			FINDER/LCD FINDER (PK-45 board) (S710)	FINDER/LCD LCD (PK-45 board) (S710)
15 (KEY AD2) (IC702 (83))	CONTROL RIGHT (PK-45 board) (S701)	CONTROL LEFT (PK-45 board) (S701)	CONTROL SET (PK-45 board) (S701)	FLASH (PK-45 board) (S703)	SPOT METER (PK-45 board) (S705)	POP UP ON (FLASH UNIT)	POP UP OFF (FLASH UNIT)
16 (KEY AD3) (IC702 (84))		SELECT + (SIDE SW block)	SELECT – (SIDE SW block)		PROGRAM AE (SIDE SW block)	STEADY SHOT ON (FRONT SW block)	STEADY SHOT OFF (FRONT SW block)
17 (KEY AD4) (IC702 (85))				WHITE BALANCE (SIDE SW block)	W/B SET (SIDE SW block)	FOCUS MANUAL (FRONT SW block)	FOCUS AUTO (FRONT SW block)

5. Self Diagnosis Log check

Page 3	Address 2A to 3C

Address	Function
2A	Numbers pf error occurrence (0 to 6)
2B	1st error occurrence code
2C	
2D	
2E	2nd error occurrence code
2F	
30	
31	3rd error occurrence code
32	
33	
34	4th error occrrence code
35	
36	
37	5th error occurrence code
38	
39	
3A	6th error occrrence code
3B	
3C	

Example:

C : 32 : 01

- 01 — Address: 2D, 30, 33, 36, 39, 3C
- 32 — Address: 2C, 2F, 32, 35, 38, 3B
- C — Address: 2B, 2E, 31, 34, 37, 3C (Note)

Note: “C” → ”01“
“E“ → “03”

Using method:

1) The self diagnosis log is displayed at page: 3, addresses: 2A to 3C.
   Note: This data will be erased when the coin lithium battery (PK-45 board BH701) is removed (reset).

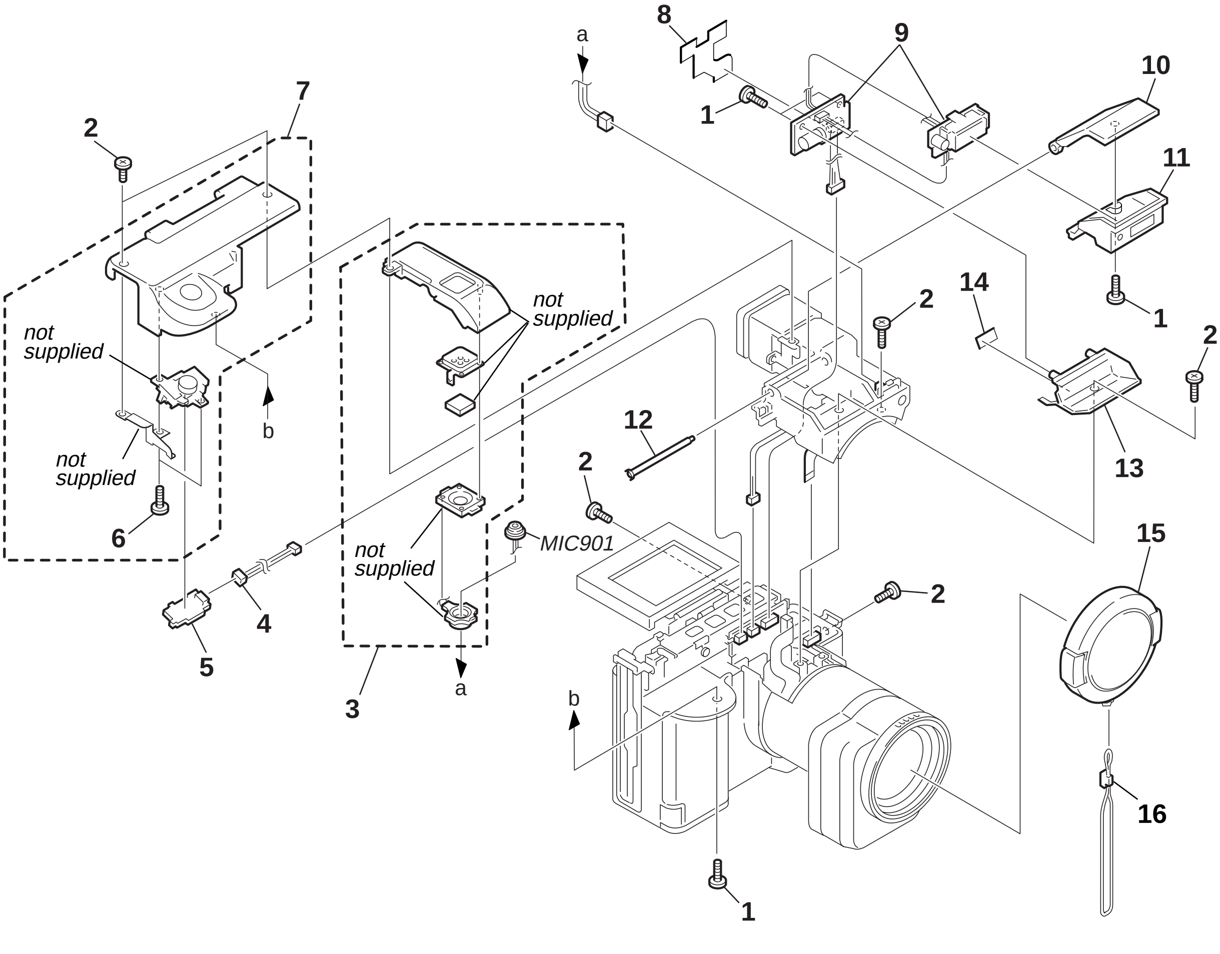
SECTION 6
REPAIR PARTS LIST

6-1. EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

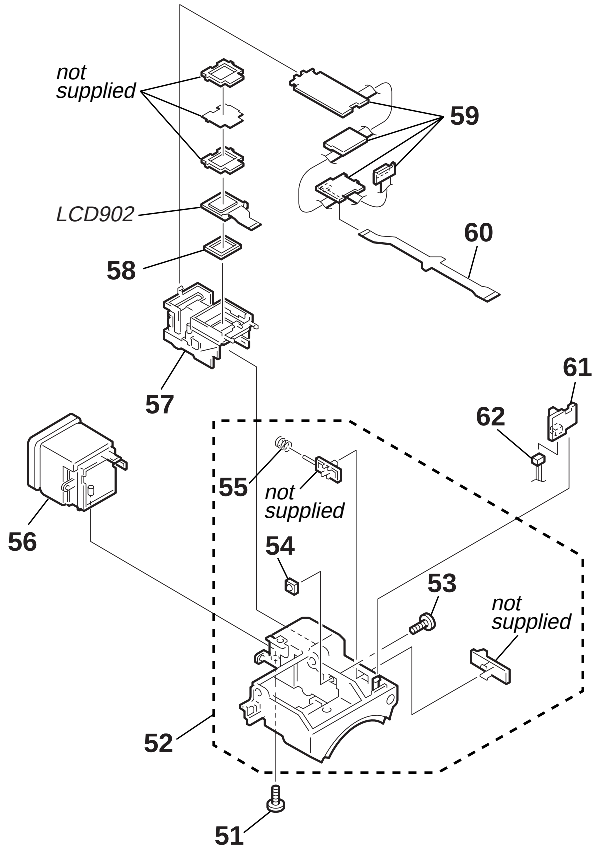
6-1-1.CABINET (RL) SECTION



Ref. No.	Part No.	Description	Remarks
1	3-948-339-01	SCREW, TAPPING	
2	3-968-729-01	SCREW (M2), LOCK ACE, P2	
3	X-3949-131-1	CABINET ASSY, MICROPHONE	
4	1-959-175-11	HARNESS (RL-51)	
5	A-7073-748-A	RL-52 BOARD, COMPLETE	
6	3-948-339-61	TAPPING	
7	X-3949-129-1	CABINET (RL) ASSY	
8	3-053-049-01	SHEET, ST PROTECTION	
⚠9	1-418-067-11	FLASH UNIT (50110)	

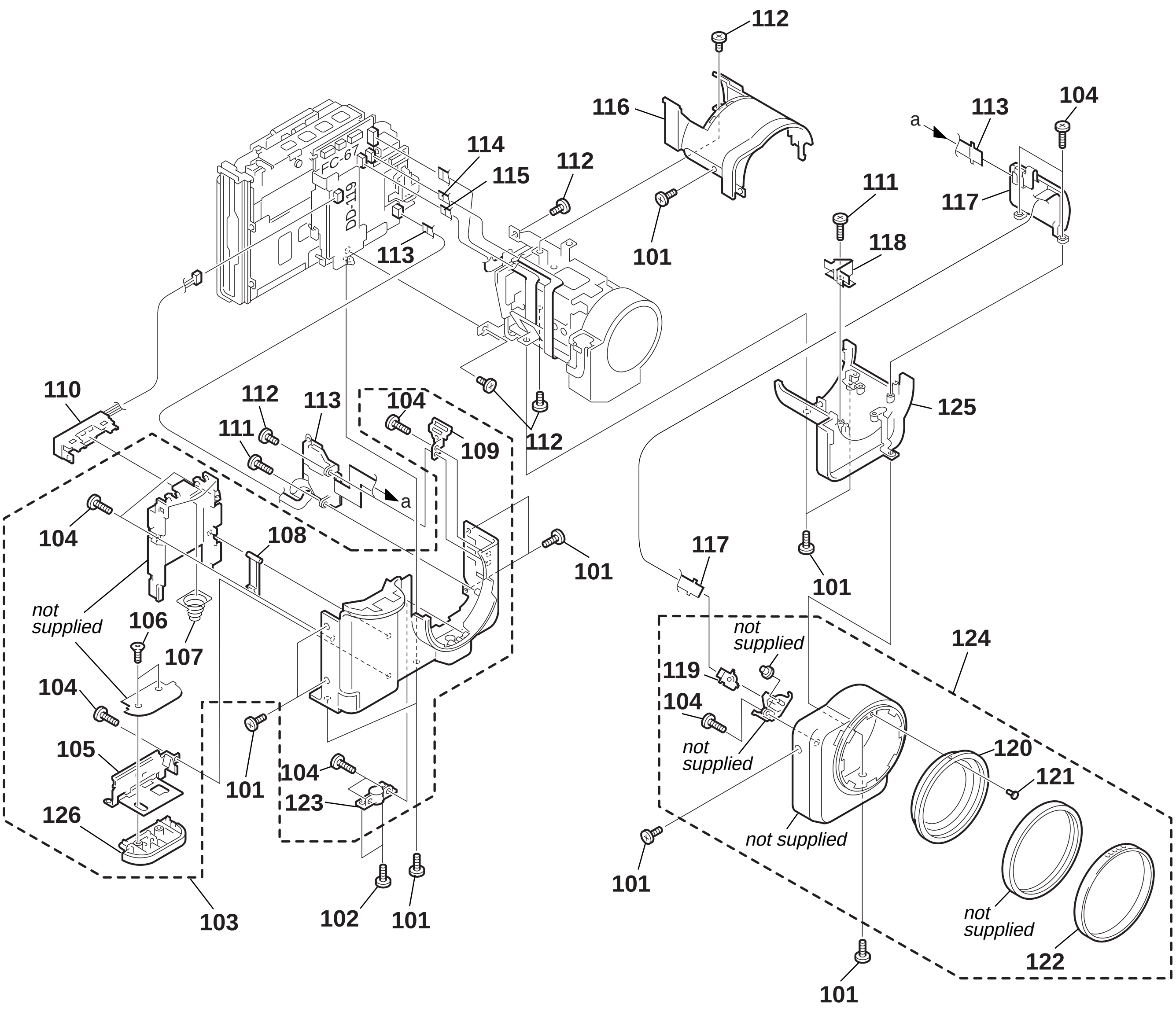
Ref. No.	Part No.	Description	Remarks
10	3-053-023-01	CABINET (UPPER), POP	
11	X-3949-138-1	CABINET (LOWER) ASSY, POP	
12	3-053-036-01	SHAFT, POP	
13	3-053-022-01	CABINET, ST BLIND	
14	3-053-048-01	SHEET, VIBRATION PROOF	
15	X-3949-424-1	CAP ASSY, LENS	
16	3-724-594-11	STRING, CAP	
MIC901	1-542-312-11	MICROPHONE	

6-1-2. EVF SECTION



Ref. No.	Part No.	Description	Remarks
51	3-713-791-81	SCREW (M1.7)	
52	X-3949-130-1	CABINET (ST) ASSY	
53	3-968-729-51	SCREW (M2), LOCK ACE, P2	
54	3-718-233-01	NUT, PLATE	
55	3-965-034-01	SPRING, COMPRESSION	
56	X-3949-134-1	CABINET ASSY, EVF	
* 57	X-3948-659-1	HOLDER ASSY, LENS	
* 58	3-960-302-11	CUSHION (1), LCD	
59	A-7073-754-A	VF-131 BOARD, COMPLETE	
60	1-671-875-11	FP-68 (VF-FC) FLEXIBLE BOARD	
61	A-7073-752-A	MA-348 BOARD, COMPLETE	
62	1-959-176-11	HARNESS (MA-151)	
LCD902	8-753-023-51	LCX027AK-1	

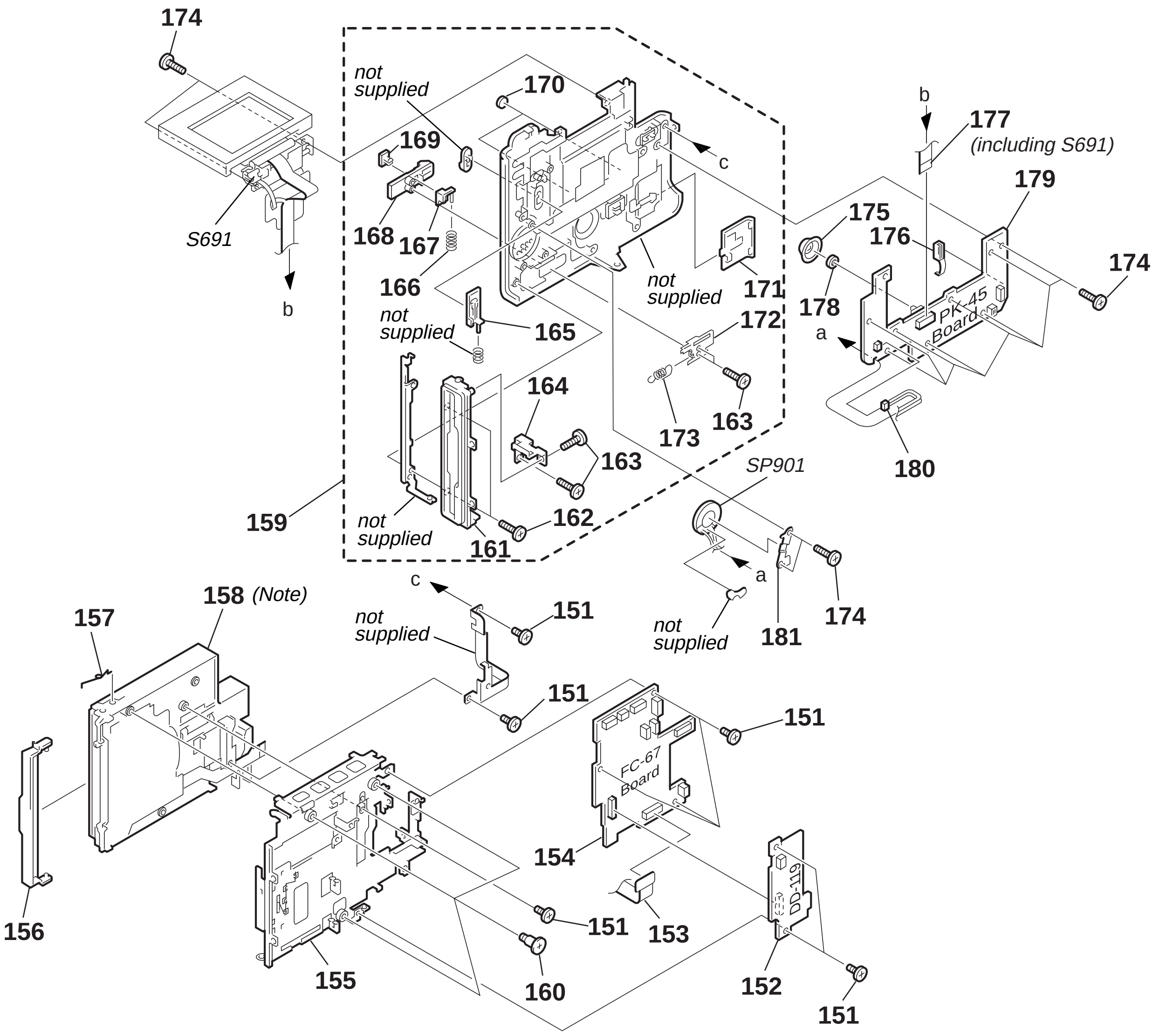
6-1-3. CABINET (FRONT) SECTION



Ref. No.	Part No.	Description	Remarks
101	3-968-729-01	SCREW (M2), LOCK ACE, P2	
102	3-968-729-11	SCREW (M2), LOCK ACE, P2	
103	X-3949-125-1	CABINET (FRONT) ASSY	
104	3-948-339-61	TAPPING	
105	X-3949-052-1	SHAFT ASSY, HINGE	
106	3-736-363-41	TAPPING	
107	3-969-380-01	SPRING, BATTERY	
108	3-052-574-01	CLAW, BT LOCK	
109	3-052-978-01	SHEET METAL (L), STRAP	
110	1-694-297-31	TERMINAL BOARD, BATTERY	
111	3-948-339-01	SCREW, TAPPING	
112	3-713-786-21	SCREW (M2X3)	
113	1-418-069-11	BLOCK, SW	

Ref. No.	Part No.	Description	Remarks
114	1-671-880-11	FP-73 (VP-FC) FLEXIBLE BOARD	
115	1-671-874-11	FP-67 (FC-CD) FLEXIBLE BOARD	
116	3-052-985-01	CABINET (LT)	
117	1-418-070-11	BLOCK, ZM	
* 118	3-052-974-01	PLATE (A), F FIXED	
119	1-418-068-11	BLOCK (50110), MF	
120	3-965-098-01	SCREW	
121	3-965-060-01	PIN, MF FIXED	
122	3-970-329-01	BAND, RING	
123	3-050-468-01	SCREW, TRIPOD	
124	X-3949-127-1	CABINET (VP) ASSY	
125	X-3949-128-1	CABINET (LB) ASSY	
126	X-3949-410-1	LID ASSY, BATTERY	

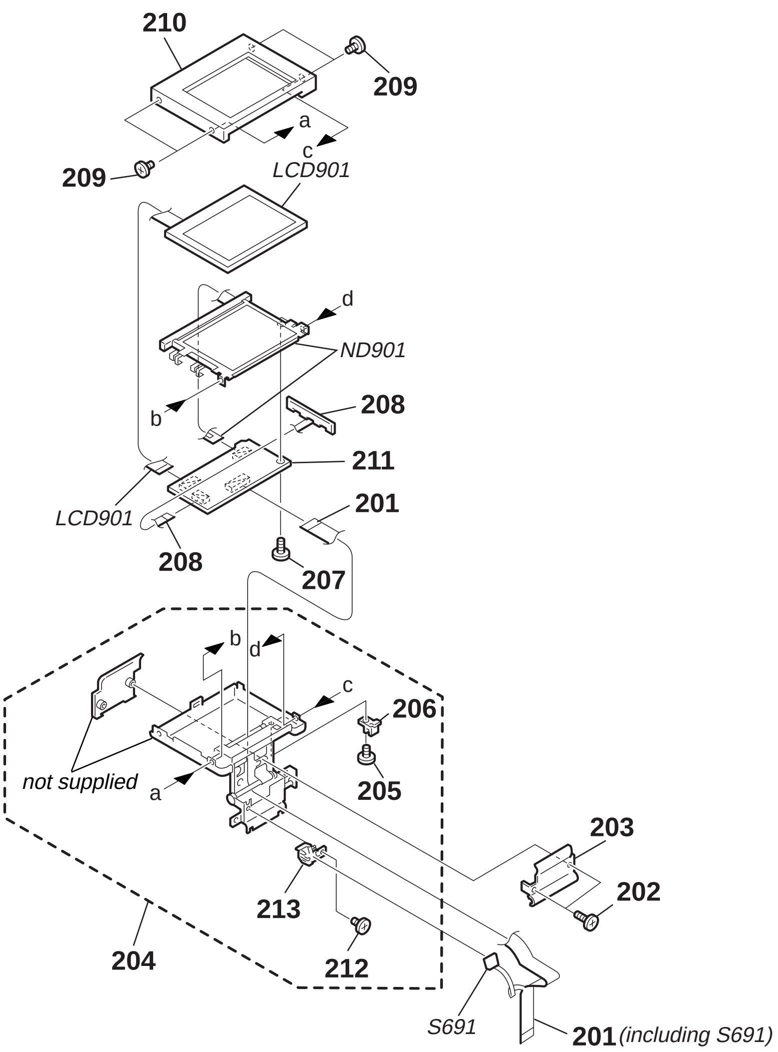
6-1-4. CABINET (REAR) SECTION



(Note) The FD block assembly is a mechanical unit which has completely been adjusted in the factory.

Ref. No.	Part No.	Description	Remarks
151	3-713-786-21	SCREW (M2X3)	
152	A-7073-746-A	DD-119 (110) BOARD, COMPLETE	
153	1-671-864-21	FP-65 FLEXIBLE BOARD	
154	A-7094-123-A	FC-67 (110) BOARD, COMPLETE (SERVICE)	
155	X-3949-135-1	FRAME ASSY, MAIN	
156	3-050-457-01	LID, SIDE	
157	3-050-458-01	SPRING (UPPER), SIDE	
158	1-759-679-11	DRIVE, FLOPPY DISK (3.5 INCH)	
159	X-3949-126-1	CABINET (REAR) ASSY	
160	3-352-483-01	SCREW (M2), STEP	
161	3-052-530-01	CABINET, SIDE	
162	3-051-558-05	ACE (M1.7), LOCK	
163	3-948-339-61	TAPPING	
164	3-053-012-01	SHEET METAL (R), STRAP	
165	3-052-997-01	HOLDER, POWER	
166	3-052-958-01	SPRING, COMPRESSION	
167	3-052-957-01	SLIDER, EJECT	
168	3-052-954-01	KNOB, EJECT	
169	3-052-956-01	LOCK, EJECT	
170	3-969-387-01	FOOT, RUBBER	
171	3-053-005-01	LID, LITHIUM	
172	3-052-955-01	SHEET METAL, EJECT	
173	3-052-537-01	SPRING, EXTENSION	
174	3-948-339-01	SCREW, TAPPING	
175	3-978-439-01	BUTTON, CONTROL	
176	3-052-982-01	COVER, CPC	
177	1-671-876-21	FP-69 (PD-PK) FLEXIBLE BOARD	(Including S691)
* 178	3-979-292-01	SHEET (CONTROL)	
179	A-7073-749-A	PK-45 BOARD, COMPLETE	
180	1-958-571-11	HARNESS (SP-151)	
181	3-053-011-01	RETAINER, SPEAKER	
SP901	1-529-174-11	SPEAKER (2.0 CM)	

6-1-5. LCD PANEL SECTION

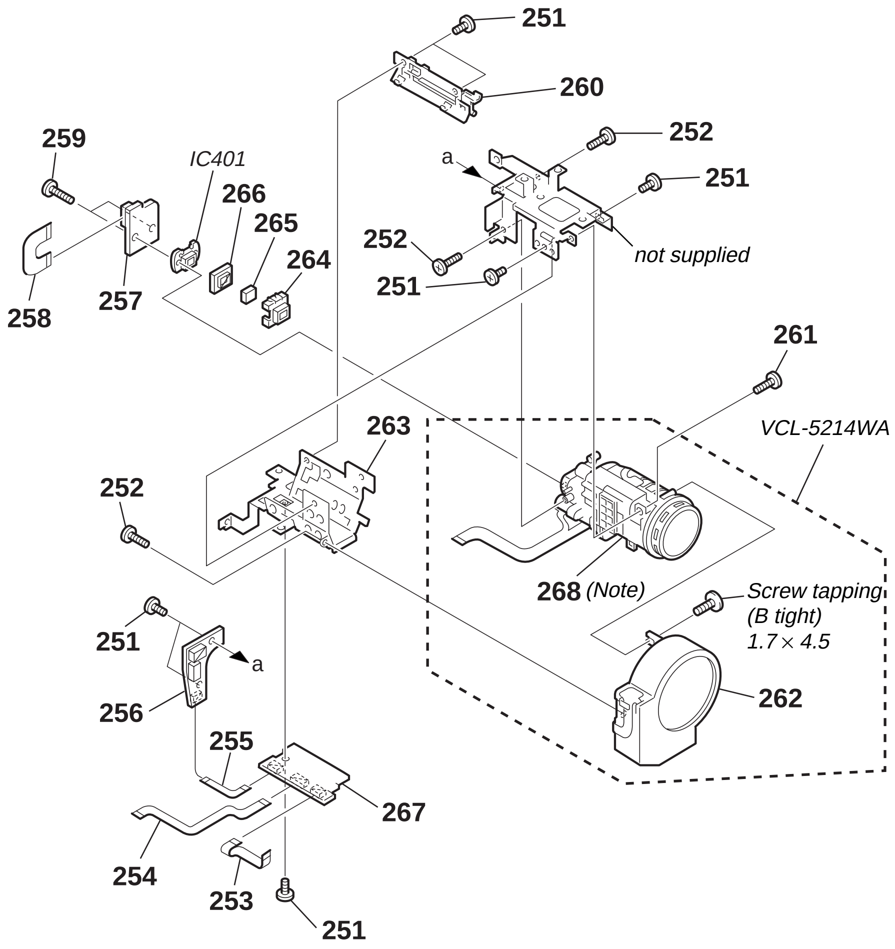


Ref. No.	Part No.	Description	Remarks
201	1-671-876-21	FP-69 (PD-PK) FLEXIBLE BOARD	(Including S691)
202	3-713-791-01	SCREW (M1.7X4), TAPPING, P2	
203	3-052-986-01	COVER (FRONT), HINGE	
204	X-3949-133-1	CABINET (REAR) ASSY, P	
205	3-973-497-21	SCREW (M1.7), 0-NO. +P 2	
* 206	3-977-686-01	LOCK, LCD	
207	3-713-786-21	SCREW (M2X3)	

Ref. No.	Part No.	Description	Remarks
208	1-671-877-21	FP-70 (PANEL) FLEXIBLE BOARD	
209	4-969-980-11	SCREW (M1.4) (IB LOCK), PAN	
210	X-3949-132-1	CABINET (FRONT) ASSY, P	
211	A-7073-753-A	PD-104 BOARD, COMPLETE	
212	3-704-197-12	SCREW (M1.4X2.0), LOCKING	
213	X-3949-411-1	BRACKET ASSY	
LCD901	1-803-184-21	INDICATOR MODULE, LIQUID CRYST	
⚠ND901	1-517-817-11	TUBE, FLUORESCENT,COLD CATHODE	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1-6. LENS BLOCK SECTION



(Note) Never remove the motors from the lens block because adjustments become necessary to re-assemble them once they are removed.

Be sure to read “Note on the CCD imager replacement” on page 4-8 when changing the CCD Imager.

Ref. No.	Part No.	Description	Remarks
251	3-713-786-21	SCREW (M2X3)	
252	3-948-339-01	SCREW, TAPPING	
253	1-671-878-11	FP-71 (CS-VP) FLEXIBLE BOARD	
254	1-671-880-11	FP-73 (VP-FC) FLEXIBLE BOARD	
255	1-671-879-11	FP-72 (SE-VP) FLEXIBLE BOARD	
256	A-7073-751-A	SE-78 BOARD, COMPLETE	
257	A-7073-745-A	CD-207 BOARD, COMPLETE	
258	1-671-874-11	FP-67 (FC-CD) FLEXIBLE BOARD	
259	3-947-268-11	TITE (2), +B TAPPING (P)	
* 260	X-3949-137-1	ARM ASSY, VP	
261	3-973-497-31	SCREW (M1.7), 0-NO. +P 2	
262	3-709-461-01	VAP UNIT	
263	3-052-979-01	FRAME (LOWER), LENS	
264	3-957-990-11	ADAPTOR (C), CCD FITTING	
265	1-758-217-11	FILTER BLOCK, OPTICAL	
266	3-949-283-01	RUBBER (2), SEAL	
267	A-7073-750-A	VP-49 BOARD, COMPLETE	
268	3-709-462-01	TUBE, MIRROR UNIT, MAIN	
IC401	A-7030-955-A	CCD BLOCK ASSY (CCD IMAGER)	

6-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: μF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Abbreviation
  CND : Canadian model
  CN : Chinese model
  AUS : Australian model
  JE : Tourist model
  HK : Hong Kong model

Ref. No.	Part No.	Description			Remarks
	A-7073-745-A	CD-207 BOARD, COMPLETE			
		**********************			
		(Ref.No.:2,000 Series)			
		(IC401 is not included in this complete board)			
		< CAPACITOR >			
C401	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C404	1-113-981-11	TANTAL. CHIP	22uF	20%	20V
C405	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C406	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
		< CONNECTOR >			
CN401	1-766-346-21	CONNECTOR, FFC/FPC 16P			
		< IC >			
IC401	A-7030-955-A	CCD BLOCK ASSY (CCD IMAGER)			
		< COIL >			
L401	1-414-757-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q401	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1			
		< RESISTOR >			
R401	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R402	1-216-809-11	METAL CHIP	100	5%	1/16W
R403	1-216-809-11	METAL CHIP	100	5%	1/16W
R404	1-216-857-11	METAL CHIP	1M	5%	1/16W
R405	1-216-864-11	METAL CHIP	0	5%	1/16W
R406	1-216-295-91	SHORT	0		
	A-7073-746-A	DD-119 (110) BOARD, COMPLETE			
		****************************			
		(Ref.No.:2,000 Series)			
		< CAPACITOR >			
C302	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C303	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C304	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C305	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C306	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C308	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C309	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C310	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C311	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C314	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C315	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C316	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C318	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C319	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C320	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C321	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C322	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C323	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C324	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C325	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C326	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C327	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C328	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C329	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C330	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C331	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C332	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C333	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C334	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C335	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C336	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C337	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C338	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C339	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C340	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C342	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C343	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C344	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C345	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C346	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C347	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C348	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C349	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C350	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C352	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C353	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C354	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C357	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C358	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C359	1-135-216-11	TANTALUM CHIP	10uF	20%	10V

Be sure to read "Note on the CCD imager replacement" on page 4-8 when changing the CCD Imager.

Ref. No.	Part No.	Description			Remarks
C361	1-135-216-11	TANTALUM CHIP 10uF		20%	10V
C363	1-104-913-11	TANTAL. CHIP 10uF		20%	16V
C364	1-107-682-11	CERAMIC CHIP 1uF		10%	16V
C365	1-164-346-11	CERAMIC CHIP 1uF			16V
		< CONNECTOR >			
* CN301	1-580-057-11	PIN, CONNECTOR 4P			
CN303	1-785-479-21	CONNECTOR, BOARD TO BOARD 50P			
		< DIODE >			
D304	8-719-027-76	DIODE 1SS357-TPH3			
D305	8-719-027-77	DIODE MA796-TX			
D306	8-719-404-49	DIODE MA111-TX			
D307	8-719-404-49	DIODE MA111-TX			
		< FUSE >			
⚠F301	1-533-709-11	FUSE (SMD) (1.25A/24V)			
⚠F302	1-533-709-11	FUSE (SMD) (1.25A/24V)			
⚠F303	1-533-709-11	FUSE (SMD) (1.25A/24V)			
⚠F304	1-533-709-11	FUSE (SMD) (1.25A/24V)			
		< IC >			
IC301	8-759-060-94	IC MB3785APFV-G-BND-ER			
		< COIL >			
L301	1-416-344-11	INDUCTOR 10uH			
L302	1-416-344-11	INDUCTOR 10uH			
L303	1-416-345-11	INDUCTOR 22uH			
L304	1-416-345-11	INDUCTOR 22uH			
L305	1-416-345-11	INDUCTOR 22uH			
L306	1-414-396-21	INDUCTOR 4.7uH			
L307	1-414-392-21	INDUCTOR 1uH			
L308	1-414-396-21	INDUCTOR 4.7uH			
L309	1-414-406-11	INDUCTOR 220uH			
L310	1-414-396-21	INDUCTOR 4.7uH			
L311	1-414-396-21	INDUCTOR 4.7uH			
L312	1-414-396-21	INDUCTOR 4.7uH			
L313	1-414-396-21	INDUCTOR 4.7uH			
L314	1-414-396-21	INDUCTOR 4.7uH			
L315	1-414-396-21	INDUCTOR 4.7uH			
L316	1-416-344-11	INDUCTOR 10uH			
L317	1-414-392-21	INDUCTOR 1uH			
		< LINE FILTER >			
LF301	1-411-957-11	FILTER, COMMON MODE			
		< TRANSISTOR >			
Q306	8-729-033-14	TRANSISTOR FP107-TL			
Q307	8-729-804-41	TRANSISTOR 2SB1122-ST-TD			
Q308	8-729-033-14	TRANSISTOR FP107-TL			
Q309	8-729-033-14	TRANSISTOR FP107-TL			
Q310	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q311	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q312	8-729-041-23	TRANSISTOR NDS356AP			
Q313	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q314	8-729-037-61	TRANSISTOR UN9113J-(K8).SO			
Q315	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q316	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q317	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q318	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q319	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q320	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q321	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q322	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q323	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q324	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q325	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q326	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q327	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q328	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q329	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q330	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q331	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q332	8-729-041-23	TRANSISTOR NDS356AP			
Q333	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q334	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q335	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
		< RESISTOR >			
R309	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R310	1-216-850-11	METAL CHIP	270K	5%	1/16W
R312	1-216-864-11	METAL CHIP	0	5%	1/16W
R314	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R315	1-218-879-11	RES,CHIP	22K	0.50%	1/16W
R316	1-218-852-11	RES,CHIP	1.6K	0.50%	1/16W
R317	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R318	1-216-840-11	METAL CHIP	39K	5%	1/16W
R319	1-216-838-11	METAL CHIP	27K	5%	1/16W
R320	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R321	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R324	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R325	1-218-837-11	RES,CHIP	390	0.50%	1/16W
R326	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R327	1-216-847-11	METAL CHIP	150K	5%	1/16W
R328	1-216-833-11	METAL CHIP	10K	5%	1/16W
R330	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R331	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R332	1-216-864-11	METAL CHIP	0	5%	1/16W
R333	1-218-870-11	RES,CHIP	9.1K	0.50%	1/16W
R334	1-216-841-11	METAL CHIP	47K	5%	1/16W
R335	1-216-843-11	METAL CHIP	68K	5%	1/16W
R336	1-216-821-11	METAL CHIP	1K	5%	1/16W
R337	1-216-821-11	METAL CHIP	1K	5%	1/16W
R340	1-216-864-11	METAL CHIP	0	5%	1/16W
R341	1-218-875-11	RES,CHIP	15K	0.50%	1/16W
R342	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R343	1-216-833-11	METAL CHIP	10K	5%	1/16W
R346	1-216-813-11	METAL CHIP	220	5%	1/16W
R347	1-216-819-11	METAL CHIP	680	5%	1/16W
R348	1-216-817-11	METAL CHIP	470	5%	1/16W
R349	1-216-817-11	METAL CHIP	470	5%	1/16W
R352	1-216-845-11	METAL CHIP	100K	5%	1/16W
R353	1-216-845-11	METAL CHIP	100K	5%	1/16W
R356	1-216-845-11	METAL CHIP	100K	5%	1/16W

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
R357	1-216-841-11	METAL CHIP	47K	5%	1/16W
R358	1-216-837-11	METAL CHIP	22K	5%	1/16W
R360	1-218-883-11	RES,CHIP	33K	0.50%	1/16W
R361	1-216-864-11	METAL CHIP	0	5%	1/16W
R362	1-218-897-11	RES,CHIP	120K	0.50%	1/16W
R363	1-218-897-11	RES,CHIP	120K	0.50%	1/16W
R364	1-216-864-11	METAL CHIP	0	5%	1/16W
R365	1-216-835-11	METAL CHIP	15K	5%	1/16W
R366	1-216-845-11	METAL CHIP	100K	5%	1/16W
R367	1-216-841-11	METAL CHIP	47K	5%	1/16W
R368	1-216-844-11	METAL CHIP	82K	5%	1/16W
R369	1-216-845-11	METAL CHIP	100K	5%	1/16W
R370	1-216-845-11	METAL CHIP	100K	5%	1/16W
R371	1-216-841-11	METAL CHIP	47K	5%	1/16W
R372	1-216-844-11	METAL CHIP	82K	5%	1/16W
R373	1-216-845-11	METAL CHIP	100K	5%	1/16W
R374	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R375	1-216-833-11	METAL CHIP	10K	5%	1/16W
R376	1-218-877-11	RES,CHIP	18K	0.50%	1/16W
R377	1-218-852-11	RES,CHIP	1.6K	5%	1/16W
R378	1-218-897-11	RES,CHIP	120K	0.50%	1/16W
R379	1-218-882-11	RES,CHIP	30K	0.50%	1/16W
R380	1-218-879-11	RES,CHIP	22K	0.50%	1/16W
R381	1-218-891-11	RES,CHIP	68K	0.50%	1/16W
R387	1-216-845-11	METAL CHIP	100K	5%	1/16W
R388	1-216-845-11	METAL CHIP	100K	5%	1/16W
R389	1-216-845-11	METAL CHIP	100K	5%	1/16W
R390	1-216-839-11	METAL CHIP	33K	5%	1/16W
R391	1-218-893-11	RES,CHIP	82K	0.50%	1/16W
R393	1-218-883-11	RES,CHIP	33K	0.50%	1/16W
R394	1-216-864-11	METAL CHIP	0	5%	1/16W
		< TRANSFORMER >			
⚠T301	1-429-565-21	TRANSFORMER, CONVERTER			

A-7094-123-A FC-67 (110) BOARD, COMPLETE (SERVICE)
****
(Ref.No.:10,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			Remarks
C002	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C003	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C004	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C005	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C006	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C007	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C008	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C009	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C010	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C011	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C012	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C013	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C014	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C015	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C016	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V

Ref. No.	Part No.	Description			Remarks
C019	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C020	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C021	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C022	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C023	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C024	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C025	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C026	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C027	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C028	1-216-864-11	METAL CHIP	0	5%	1/16W (Note 1)
C030	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C031	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C032	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C033	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C034	1-216-848-11	METAL CHIP	180K	5%	1/16W (Note 1)
C035	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C037	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C102	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C104	1-125-839-91	TANTAL. CHIP	47uF	20%	6.3V
C107	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C109	1-115-156-11	CERAMIC CHIP	1uF		10V
C110	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C111	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C112	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C113	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C114	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C116	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C117	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C119	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C120	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C121	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C122	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C123	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C124	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C125	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C126	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C127	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C128	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C129	1-164-346-11	CERAMIC CHIP	1uF		16V
C130	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C131	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C132	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C135	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C137	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C138	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C139	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C401	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C402	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C403	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C404	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C405	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C406	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C407	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Note 1: Resistors are mounted to the location where C028, C034 are printed.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Ref. No.	Part No.	Description			Remarks
C408	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C409	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C410	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C411	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C412	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C413	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C415	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C416	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C417	1-164-346-11	CERAMIC CHIP	1uF		16V
C418	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C419	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C420	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C421	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C451	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C452	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C453	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C454	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C455	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C456	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C457	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C458	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C459	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C481	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C482	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C483	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C484	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C485	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C486	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C487	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C488	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C601	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C602	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C603	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C604	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C605	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C606	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C607	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C608	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C609	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C610	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C611	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C612	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C701	1-115-156-11	CERAMIC CHIP	1uF		10V
C702	1-115-156-11	CERAMIC CHIP	1uF		10V
C703	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C704	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C706	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C707	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C708	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C709	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C713	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C714	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C715	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C716	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C717	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C718	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C720	1-115-156-11	CERAMIC CHIP	1uF		10V
C722	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C724	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C725	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C726	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C727	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C728	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C729	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C732	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C733	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C734	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C735	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C736	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C804	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C805	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C806	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C807	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C808	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C809	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C810	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C811	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C812	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C813	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C814	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C815	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C821	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C853	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C856	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C858	1-164-315-11	CERAMIC CHIP	470PF	2%	50V
C859	1-164-315-11	CERAMIC CHIP	470PF	2%	50V
C861	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C862	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C865	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C866	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C867	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C868	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C874	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN001	1-770-622-21	PIN, CONNECTOR 5P			
CN101	1-779-332-11	CONNECTOR, FFC/FPC 16P			
CN401	1-779-334-11	CONNECTOR, FFC/FPC 20P			
CN601	1-766-351-21	CONNECTOR, FFC/FPC 21P			
CN602	1-785-483-21	CONNECTOR, BOARD TO BOARD 70P			
* CN603	1-766-883-31	CONNECTOR, BOARD TO BOARD 50P			
CN701	1-779-331-11	CONNECTOR, FFC/FPC 14P			
CN702	1-770-624-21	PIN, CONNECTOR 7P			
CN703	1-779-329-11	CONNECTOR, FFC/FPC 10P			
CN704	1-770-630-21	PIN, CONNECTOR 13P			
		< DIODE >			
D001	8-719-404-49	DIODE MA111-TX			
D002	8-719-404-49	DIODE MA111-TX			
D003	8-719-404-49	DIODE MA111-TX			
D701	8-719-049-09	DIODE 1SS367-T3SONY			
D702	8-719-404-49	DIODE MA111-TX			

Ref. No.	Part No.	Description	Remarks
D703	8-719-049-09	DIODE 1SS367-T3SONY	
		< FERRITE BEAD >	
FB101	1-500-284-21	INDUCTOR CHIP 0UH	
FB102	1-500-283-11	INDUCTOR CHIP 0UH	
FB103	1-414-228-11	INDUCTOR CHIP 0UH	
FB451	1-414-233-22	INDUCTOR CHIP 0UH	
FB452	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB453	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB454	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB455	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB456	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB457	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB481	1-414-233-22	INDUCTOR CHIP 0UH	
FB482	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB483	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB484	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB485	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB486	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB487	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB488	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB489	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB490	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB491	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB801	1-414-233-22	INDUCTOR CHIP 0UH	
FB802	1-216-864-11	METAL CHIP 0 5%	1/16W (Note 1)
FB803	1-414-228-11	INDUCTOR CHIP 0UH	
		< IC >	
IC001	8-759-547-46	IC MSM9831-SGX4880MAZ060	
IC002	8-759-075-66	IC TA75S01F(TE85R)	
IC003	8-759-075-66	IC TA75S01F(TE85R)	
IC004	8-759-566-19	IC AK4518-VF-E2	
IC006	8-759-494-52	IC BA7783FS-E2	
IC101	8-759-526-24	IC CCD1000Y/T2	
IC102	8-752-395-77	IC CXD2457R-T4	
IC103	8-752-397-29	IC CXD3135AR-T6	
IC104	8-759-565-67	IC XC62FP3202PR	
IC401	8-759-337-40	IC NJM2904V(TE2)	
IC402	8-759-475-79	IC uPD16833AG3-E2	
IC403	8-752-377-38	IC CXD2430N-T4	
IC404	8-759-338-78	IC BA10324AFV-E2	
IC405	8-759-075-66	IC TA75S01F(TE85R)	
IC451	8-759-543-83	IC KM416V1204CT-L6T	

Note 1: Resistors are mounted to the location where FB452 to FB 457, FB482 to FB491 and FB802 are printed.

Ref. No.	Part No.	Description	Remarks
IC452	8-759-543-83	IC KM416V1204CT-L6T	
IC453	8-752-395-40	IC CXD3138R	
IC481	8-759-564-51	IC KZ4E063G21WFP	
IC601	8-752-384-33	IC CXD3121R-T4	
IC701	8-759-298-10	IC S-8423NFS-T2	
IC702	8-759-572-78	IC S579291PZ-TEB	
IC703	8-759-445-94	IC AK6480AM-E2	
IC704	8-759-427-85	IC MB88146APFV-G-BND-ER	
IC705	8-759-574-31	IC MB90097PFV-G-116-BND-ER	
IC801	8-759-458-76	IC uPD72069GF-3BA	
IC802	8-759-196-97	IC TC7SH32FU-TE85R	
IC803	8-759-466-32	IC TA8563FN(EL)	
IC804	8-759-475-48	IC TC74LCX245FT(EL)	
IC805	8-759-083-94	IC TC7W74FU(TE12R)	
IC851	8-759-564-97	IC HD6417708SF60	
IC852	8-759-579-45	IC MBM29LV200B-10PFTN-027-ER	
		< COIL >	
L001	1-414-754-11	INDUCTOR 10uH	
L002	1-414-754-11	INDUCTOR 10uH	
L003	1-414-406-11	INDUCTOR 220uH	
L004	1-414-754-11	INDUCTOR 10uH	
L005	1-414-754-11	INDUCTOR 10uH	
L007	1-414-754-11	INDUCTOR 10uH	
L101	1-414-754-11	INDUCTOR 10uH	
L102	1-414-754-11	INDUCTOR 10uH	
L103	1-414-754-11	INDUCTOR 10uH	
L104	1-414-754-11	INDUCTOR 10uH	
L401	1-414-078-11	INDUCTOR 10uH	
L402	1-414-754-11	INDUCTOR 10uH	
L403	1-414-078-11	INDUCTOR 10uH	
L451	1-412-955-11	INDUCTOR 22uH	
L452	1-412-955-11	INDUCTOR 22uH	
L601	1-412-951-11	INDUCTOR 10uH	
L602	1-412-961-11	INDUCTOR 68uH	
L603	1-412-961-11	INDUCTOR 68uH	
L604	1-412-961-11	INDUCTOR 68uH	
L701	1-414-754-11	INDUCTOR 10uH	
L702	1-414-757-11	INDUCTOR 100uH	
L703	1-414-757-11	INDUCTOR 100uH	
L801	1-414-754-11	INDUCTOR 10uH	
L802	1-412-955-11	INDUCTOR 22uH	
L803	1-412-955-11	INDUCTOR 22uH	
		< TRANSISTOR >	
Q101	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
Q102	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q103	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
Q104	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q401	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q402	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q403	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q601	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q602	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q603	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	

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Ref. No.	Part No.	Description			Remarks
Q701	8-729-024-48	TRANSISTOR	2SK1830-TE85L		
Q702	8-729-032-62	TRANSISTOR	2SJ347-TE85L		
Q703	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
Q704	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
Q705	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
Q707	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO		
Q708	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
Q801	8-729-037-61	TRANSISTOR	UN9113J-(K8).SO		
Q802	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
Q803	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
Q804	8-729-037-53	TRANSISTOR	2SB1462J-QR(K8).SO		
Q805	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
Q1005	8-729-015-66	TRANSISTOR	2SC4919-TL		
		< RESISTOR >			
R007	1-216-864-11	METAL CHIP	0	5%	1/16W
R008	1-216-852-11	METAL CHIP	390K	5%	1/16W
R009	1-216-833-11	METAL CHIP	10K	5%	1/16W
R010	1-216-841-11	METAL CHIP	47K	5%	1/16W
R011	1-216-821-11	METAL CHIP	1K	5%	1/16W
R012	1-216-835-11	METAL CHIP	15K	5%	1/16W
R014	1-216-835-11	METAL CHIP	15K	5%	1/16W
R016	1-216-844-11	METAL CHIP	82K	5%	1/16W
R017	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R019	1-216-851-11	METAL CHIP	330K	5%	1/16W
R020	1-216-848-11	METAL CHIP	180K	5%	1/16W
R021	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R022	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R024	1-216-817-11	METAL CHIP	470	5%	1/16W
R025	1-216-864-11	METAL CHIP	0	5%	1/16W
R026	1-216-864-11	METAL CHIP	0	5%	1/16W
R028	1-216-840-11	METAL CHIP	39K	5%	1/16W
R029	1-216-833-11	METAL CHIP	10K	5%	1/16W
R031	1-216-864-11	METAL CHIP	0	5%	1/16W
R032	1-216-864-11	METAL CHIP	0	5%	1/16W
R035	1-216-846-11	METAL CHIP	120K	5%	1/16W
R037	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R040	1-216-864-11	METAL CHIP	0	5%	1/16W
R042	1-216-864-11	METAL CHIP	0	5%	1/16W
R102	1-216-845-11	METAL CHIP	100K	5%	1/16W
R103	1-216-864-11	METAL CHIP	0	5%	1/16W
R104	1-216-864-11	METAL CHIP	0	5%	1/16W
R106	1-216-864-11	METAL CHIP	0	5%	1/16W
R111	1-216-841-11	METAL CHIP	47K	5%	1/16W
R112	1-216-833-11	METAL CHIP	10K	5%	1/16W
R113	1-216-864-11	METAL CHIP	0	5%	1/16W
R115	1-216-864-11	METAL CHIP	0	5%	1/16W
R116	1-216-864-11	METAL CHIP	0	5%	1/16W
R117	1-216-864-11	METAL CHIP	0	5%	1/16W
R118	1-216-864-11	METAL CHIP	0	5%	1/16W
R119	1-216-841-11	METAL CHIP	47K	5%	1/16W
R120	1-216-864-11	METAL CHIP	0	5%	1/16W
R121	1-216-806-11	RES,CHIP	56	5%	1/16W
R122	1-216-864-11	METAL CHIP	0	5%	1/16W
R124	1-216-864-11	METAL CHIP	0	5%	1/16W
R132	1-216-864-11	METAL CHIP	0	5%	1/16W
R133	1-216-864-11	METAL CHIP	0	5%	1/16W
R134	1-216-864-11	METAL CHIP	0	5%	1/16W
R135	1-216-864-11	METAL CHIP	0	5%	1/16W
R136	1-216-864-11	METAL CHIP	0	5%	1/16W
R137	1-216-864-11	METAL CHIP	0	5%	1/16W
R139	1-216-864-11	METAL CHIP	0	5%	1/16W
R140	1-216-864-11	METAL CHIP	0	5%	1/16W
R141	1-216-864-11	METAL CHIP	0	5%	1/16W
R401	1-216-841-11	METAL CHIP	47K	5%	1/16W
R402	1-216-794-11	METAL CHIP	5.6	5%	1/16W
R403	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R404	1-216-843-11	METAL CHIP	68K	5%	1/16W
R405	1-216-843-11	METAL CHIP	68K	5%	1/16W
R406	1-216-821-11	METAL CHIP	1K	5%	1/16W
R407	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R408	1-216-845-11	METAL CHIP	100K	5%	1/16W
R409	1-216-833-11	METAL CHIP	10K	5%	1/16W
R410	1-216-845-11	METAL CHIP	100K	5%	1/16W
R411	1-216-846-11	METAL CHIP	120K	5%	1/16W
R412	1-216-815-11	METAL CHIP	330	5%	1/16W
R413	1-216-837-11	METAL CHIP	22K	5%	1/16W
R414	1-216-845-11	METAL CHIP	100K	5%	1/16W
R415	1-216-821-11	METAL CHIP	1K	5%	1/16W
R416	1-216-837-11	METAL CHIP	22K	5%	1/16W
R417	1-216-848-11	METAL CHIP	180K	5%	1/16W
R418	1-216-833-11	METAL CHIP	10K	5%	1/16W
R419	1-216-836-11	METAL CHIP	18K	5%	1/16W
R420	1-216-845-11	METAL CHIP	100K	5%	1/16W
R422	1-216-848-11	METAL CHIP	180K	5%	1/16W
R423	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R424	1-216-851-11	METAL CHIP	330K	5%	1/16W
R425	1-218-887-11	RES,CHIP	47K	0.50%	1/16W
R426	1-218-877-11	RES,CHIP	18K	0.50%	1/16W
R428	1-216-821-11	METAL CHIP	1K	5%	1/16W
R429	1-218-876-11	RES,CHIP	16K	0.50%	1/16W
R430	1-216-295-91	SHORT	0		
R451	1-216-864-11	METAL CHIP	0	5%	1/16W
R452	1-216-864-11	METAL CHIP	0	5%	1/16W
R453	1-216-864-11	METAL CHIP	0	5%	1/16W
R454	1-216-864-11	METAL CHIP	0	5%	1/16W
R455	1-216-857-11	METAL CHIP	1M	5%	1/16W
R456	1-216-845-11	METAL CHIP	100K	5%	1/16W
R457	1-216-833-11	METAL CHIP	10K	5%	1/16W
R601	1-216-835-11	METAL CHIP	15K	5%	1/16W
R602	1-216-864-11	METAL CHIP	0	5%	1/16W
R603	1-216-864-11	METAL CHIP	0	5%	1/16W
R604	1-216-864-11	METAL CHIP	0	5%	1/16W
R605	1-216-835-11	METAL CHIP	15K	5%	1/16W
R606	1-216-835-11	METAL CHIP	15K	5%	1/16W
R607	1-216-864-11	METAL CHIP	0	5%	1/16W
R608	1-216-864-11	METAL CHIP	0	5%	1/16W
R609	1-216-864-11	METAL CHIP	0	5%	1/16W
R610	1-216-821-11	METAL CHIP	1K	5%	1/16W
R611	1-216-840-11	METAL CHIP	39K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R612	1-216-834-11	METAL CHIP	12K	5%	1/16W
R614	1-216-821-11	METAL CHIP	1K	5%	1/16W
R615	1-216-821-11	METAL CHIP	1K	5%	1/16W
R616	1-216-840-11	METAL CHIP	39K	5%	1/16W
R617	1-216-834-11	METAL CHIP	12K	5%	1/16W
R619	1-216-821-11	METAL CHIP	1K	5%	1/16W
R620	1-216-821-11	METAL CHIP	1K	5%	1/16W
R621	1-216-840-11	METAL CHIP	39K	5%	1/16W
R622	1-216-834-11	METAL CHIP	12K	5%	1/16W
R624	1-216-821-11	METAL CHIP	1K	5%	1/16W
R625	1-216-864-11	METAL CHIP	0	5%	1/16W
R626	1-216-864-11	METAL CHIP	0	5%	1/16W
R627	1-217-671-11	METAL CHIP	1	5%	1/10W
R628	1-217-671-11	METAL CHIP	1	5%	1/10W
R630	1-216-864-11	METAL CHIP	0	5%	1/16W
R701	1-216-845-11	METAL CHIP	100K	5%	1/16W
R702	1-216-813-11	METAL CHIP	220	5%	1/16W
R703	1-216-833-11	METAL CHIP	10K	5%	1/16W
R704	1-216-853-11	METAL CHIP	470K	5%	1/16W
R706	1-216-853-11	METAL CHIP	470K	5%	1/16W
R707	1-216-845-11	METAL CHIP	100K	5%	1/16W
R708	1-216-845-11	METAL CHIP	100K	5%	1/16W
R709	1-216-845-11	METAL CHIP	100K	5%	1/16W
R710	1-216-845-11	METAL CHIP	100K	5%	1/16W
R711	1-216-845-11	METAL CHIP	100K	5%	1/16W
R712	1-216-853-11	METAL CHIP	470K	5%	1/16W
R714	1-216-853-11	METAL CHIP	470K	5%	1/16W
R715	1-216-841-11	METAL CHIP	47K	5%	1/16W
R716	1-216-821-11	METAL CHIP	1K	5%	1/16W
R717	1-216-833-11	METAL CHIP	10K	5%	1/16W
R718	1-216-853-11	METAL CHIP	470K	5%	1/16W
R721	1-216-821-11	METAL CHIP	1K	5%	1/16W
R722	1-216-821-11	METAL CHIP	1K	5%	1/16W
R723	1-216-821-11	METAL CHIP	1K	5%	1/16W
R724	1-216-821-11	METAL CHIP	1K	5%	1/16W
R725	1-216-821-11	METAL CHIP	1K	5%	1/16W
R726	1-216-853-11	METAL CHIP	470K	5%	1/16W
R727	1-216-833-11	METAL CHIP	10K	5%	1/16W
R728	1-216-833-11	METAL CHIP	10K	5%	1/16W
R729	1-216-857-11	METAL CHIP	1M	5%	1/16W
R730	1-216-821-11	METAL CHIP	1K	5%	1/16W
R731	1-216-833-11	METAL CHIP	10K	5%	1/16W
R734	1-216-864-11	METAL CHIP	0	5%	1/16W
R736	1-216-841-11	METAL CHIP	47K	5%	1/16W
R737	1-216-821-11	METAL CHIP	1K	5%	1/16W
R738	1-216-821-11	METAL CHIP	1K	5%	1/16W
R739	1-216-821-11	METAL CHIP	1K	5%	1/16W
R740	1-216-821-11	METAL CHIP	1K	5%	1/16W
R741	1-216-853-11	METAL CHIP	470K	5%	1/16W
R742	1-219-570-11	RES,CHIP	10M	5%	1/16W
R743	1-216-853-11	METAL CHIP	470K	5%	1/16W
R744	1-216-864-11	METAL CHIP	0	5%	1/16W
R745	1-216-849-11	METAL CHIP	220K	5%	1/16W
R746	1-216-845-11	METAL CHIP	100K	5%	1/16W
R747	1-216-817-11	METAL CHIP	470	5%	1/16W
R748	1-216-839-11	METAL CHIP	33K	5%	1/16W
R749	1-216-853-11	METAL CHIP	470K	5%	1/16W
R751	1-216-845-11	METAL CHIP	100K	5%	1/16W
R752	1-216-821-11	METAL CHIP	1K	5%	1/16W
R753	1-216-857-11	METAL CHIP	1M	5%	1/16W
R754	1-216-845-11	METAL CHIP	100K	5%	1/16W
R755	1-216-845-11	METAL CHIP	100K	5%	1/16W
R756	1-216-864-11	METAL CHIP	0	5%	1/16W
R757	1-216-864-11	METAL CHIP	0	5%	1/16W
R759	1-216-857-11	METAL CHIP	1M	5%	1/16W
R761	1-216-833-11	METAL CHIP	10K	5%	1/16W
R762	1-216-821-11	METAL CHIP	1K	5%	1/16W
R763	1-216-821-11	METAL CHIP	1K	5%	1/16W
R764	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R769	1-216-845-11	METAL CHIP	100K	5%	1/16W
R773	1-216-837-11	METAL CHIP	22K	5%	1/16W
R775	1-216-845-11	METAL CHIP	100K	5%	1/16W
R776	1-216-857-11	METAL CHIP	1M	5%	1/16W
R777	1-216-853-11	METAL CHIP	470K	5%	1/16W
R779	1-216-845-11	METAL CHIP	100K	5%	1/16W
R780	1-216-845-11	METAL CHIP	100K	5%	1/16W
R781	1-216-864-11	METAL CHIP	0	5%	1/16W
R786	1-216-864-11	METAL CHIP	0	5%	1/16W
R802	1-216-864-11	METAL CHIP	0	5%	1/16W
R804	1-216-864-11	METAL CHIP	0	5%	1/16W
R806	1-216-821-11	METAL CHIP	1K	5%	1/16W
R807	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R808	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R809	1-218-878-11	RES,CHIP	20K	0.50%	1/16W
R810	1-218-854-11	RES,CHIP	2K	0.50%	1/16W
R811	1-216-833-11	METAL CHIP	10K	5%	1/16W
R812	1-216-821-11	METAL CHIP	1K	5%	1/16W
R813	1-216-821-11	METAL CHIP	1K	5%	1/16W
R814	1-216-821-11	METAL CHIP	1K	5%	1/16W
R815	1-216-833-11	METAL CHIP	10K	5%	1/16W
R816	1-216-833-11	METAL CHIP	10K	5%	1/16W
R817	1-216-833-11	METAL CHIP	10K	5%	1/16W
R818	1-216-833-11	METAL CHIP	10K	5%	1/16W
R819	1-216-833-11	METAL CHIP	10K	5%	1/16W
R820	1-216-833-11	METAL CHIP	10K	5%	1/16W
R821	1-216-833-11	METAL CHIP	10K	5%	1/16W
R822	1-216-833-11	METAL CHIP	10K	5%	1/16W
R823	1-216-833-11	METAL CHIP	10K	5%	1/16W
R824	1-216-864-11	METAL CHIP	0	5%	1/16W
R825	1-216-833-11	METAL CHIP	10K	5%	1/16W
R826	1-216-853-11	METAL CHIP	470K	5%	1/16W
R827	1-216-841-11	METAL CHIP	47K	5%	1/16W
R828	1-216-864-11	METAL CHIP	0	5%	1/16W
R830	1-216-833-11	METAL CHIP	10K	5%	1/16W
R831	1-216-833-11	METAL CHIP	10K	5%	1/16W
R832	1-216-835-11	METAL CHIP	15K	5%	1/16W
R855	1-216-845-11	METAL CHIP	100K	5%	1/16W
R856	1-216-845-11	METAL CHIP	100K	5%	1/16W
R857	1-216-845-11	METAL CHIP	100K	5%	1/16W
R858	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R863	1-216-857-11	METAL CHIP	1M	5%	1/16W
R868	1-216-845-11	METAL CHIP	100K	5%	1/16W
R870	1-216-857-11	METAL CHIP	1M	5%	1/16W
R871	1-216-845-11	METAL CHIP	100K	5%	1/16W
R876	1-216-841-11	METAL CHIP	47K	5%	1/16W
R877	1-216-841-11	METAL CHIP	47K	5%	1/16W
R878	1-216-841-11	METAL CHIP	47K	5%	1/16W
R879	1-216-841-11	METAL CHIP	47K	5%	1/16W
R880	1-216-841-11	METAL CHIP	47K	5%	1/16W
R881	1-216-841-11	METAL CHIP	47K	5%	1/16W
R882	1-216-841-11	METAL CHIP	47K	5%	1/16W
R883	1-216-841-11	METAL CHIP	47K	5%	1/16W
R884	1-216-841-11	METAL CHIP	47K	5%	1/16W
R887	1-216-864-11	METAL CHIP	0	5%	1/16W
R888	1-216-864-11	METAL CHIP	0	5%	1/16W
R889	1-216-864-11	METAL CHIP	0	5%	1/16W
R890	1-216-864-11	METAL CHIP	0	5%	1/16W
R891	1-216-845-11	METAL CHIP	100K	5%	1/16W
R892	1-216-845-11	METAL CHIP	100K	5%	1/16W
R893	1-216-845-11	METAL CHIP	100K	5%	1/16W
R894	1-216-845-11	METAL CHIP	100K	5%	1/16W
R895	1-216-845-11	METAL CHIP	100K	5%	1/16W
R896	1-216-845-11	METAL CHIP	100K	5%	1/16W
R897	1-216-833-11	METAL CHIP	10K	5%	1/16W
R898	1-216-841-11	METAL CHIP	47K	5%	1/16W
R899	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< SENSOR >			
SE801	1-801-868-41	SENSOR, SHOCK			
		< VIBRATOR >			
X101	1-781-158-21	VIBRATOR, CERAMIC (33.528MHz)			
X451	1-781-160-21	VIBRATOR, CERAMIC (16.384MHz)			
X701	1-767-450-11	VIBRATOR, CERAMIC (20MHz)			
X702	1-760-458-21	VIBRATOR, CRYSTAL (32.768KHz)			
X802	1-781-069-21	VIBRATOR,LITHIUM NIOBATE (6.875MHz)			
X803	1-767-922-11	VIBRATOR, CERAMIC (16MHz)			

A-7073-752-A MA-348 BOARD, COMPLETE
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(Ref.No.:1,000 Series)

Ref. No.	Part No.	Description			Remarks
		< CAPACITOR >			
C101	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C102	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C103	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C104	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C105	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C106	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C107	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C108	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C109	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C111	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C112	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C113	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C114	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V

Ref. No.	Part No.	Description			Remarks
		< CONNECTOR >			
* CN101	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD) 2P			
CN102	1-770-622-21	PIN, CONNECTOR 5P			
		< DIODE >			
D101	8-719-061-82	DIODE TLSU1002(TPX1,SONY)			
		< IC >			
IC101	8-759-339-63	IC NJM2118V-TE2			
IC102	8-759-490-54	IC BA3308FV-E2			
		< COIL >			
L101	1-414-754-11	INDUCTOR 10uH			
		< TRANSISTOR >			
Q101	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
		< RESISTOR >			
R101	1-216-821-11	METAL CHIP	1K	5%	1/16W
R102	1-216-809-11	METAL CHIP	100	5%	1/16W
R103	1-216-847-11	METAL CHIP	150K	5%	1/16W
R106	1-216-820-11	METAL CHIP	820	5%	1/16W
R107	1-216-820-11	METAL CHIP	820	5%	1/16W
R108	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R110	1-216-821-11	METAL CHIP	1K	5%	1/16W
R111	1-216-847-11	METAL CHIP	150K	5%	1/16W
R112	1-216-835-11	METAL CHIP	15K	5%	1/16W
R113	1-216-857-11	METAL CHIP	1M	5%	1/16W
R114	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R115	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R117	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R120	1-216-847-11	METAL CHIP	150K	5%	1/16W

A-7073-753-A PD-104 BOARD, COMPLETE
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(Ref.No.:2,000 Series)

Ref. No.	Part No.	Description			Remarks
		< CAPACITOR >			
C901	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C902	1-113-981-11	TANTAL. CHIP	22uF	20%	20V
C903	1-163-081-00	CERAMIC CHIP	0.22uF		25V
C904	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C905	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C906	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C907	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C908	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C909	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C911	1-104-911-11	TANTAL. CHIP	33uF	20%	10V
C912	1-164-346-11	CERAMIC CHIP	1uF		16V
C913	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C914	1-164-661-11	CERAMIC CHIP	0.018uF	10%	50V
C915	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
⚠C916	1-113-521-11	CERAMIC CHIP	12PF	10%	3KV

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
C933	1-107-689-21	TANTAL. CHIP	1uF	20%	35V
C934	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C935	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C936	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN901	1-691-366-11	CONNECTOR, FFC/FPC (ZIF) 28P			
CN902	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN931	1-691-362-11	CONNECTOR, FFC/FPC (ZIF) 24P			
CN971	1-766-336-21	CONNECTOR, FFC/FPC 6P			
		< DIODE >			
D902	8-719-404-49	DIODE MA111-TX			
D903	8-719-404-49	DIODE MA111-TX			
D904	8-719-058-86	DIODE PG1101H-TR			
D931	8-719-976-96	DIODE MA8047-H-TX			
		< IC >			
IC901	8-759-521-35	IC TL5001CDR			
IC902	8-759-075-70	IC TA75S393F-TE85R			
		< COIL >			
L901	1-414-396-21	INDUCTOR 4.7uH			
L902	1-424-674-11	INDUCTOR 22uH			
L903	1-409-536-41	INDUCTOR 150uH			
		< TRANSISTOR >			
Q901	8-729-042-72	TRANSISTOR UN9214J-(K8).SO			
Q902	8-729-042-59	TRANSISTOR UN9112J-(K8).SO			
Q903	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q904	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q905	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q906	8-729-823-84	TRANSISTOR FP102-TL			
Q907	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q908	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q909	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q910	8-729-039-43	TRANSISTOR FP216-TL			
Q911	8-729-042-59	TRANSISTOR UN9112J-(K8).SO			
		< RESISTOR >			
R903	1-218-867-11	RES,CHIP	6.8K	0.50%	1/16W
R904	1-218-881-11	RES,CHIP	27K	0.50%	1/16W
R905	1-218-897-11	RES,CHIP	120K	0.50%	1/16W
R906	1-216-818-11	METAL CHIP	560	5%	1/16W
R907	1-216-837-11	METAL CHIP	22K	5%	1/16W
R908	1-216-818-11	METAL CHIP	560	5%	1/16W
R909	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R910	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R911	1-218-853-11	RES,CHIP	1.8K	0.50%	1/16W
R912	1-218-859-11	RES,CHIP	3.3K	0.50%	1/16W
R913	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R914	1-216-841-11	METAL CHIP	47K	5%	1/16W
R915	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R916	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R917	1-216-055-00	METAL CHIP	1.8K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R918	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R919	1-216-845-11	METAL CHIP	100K	5%	1/16W
R920	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R921	1-216-837-11	METAL CHIP	22K	5%	1/16W
R922	1-216-817-11	METAL CHIP	470	5%	1/16W
R923	1-216-810-11	METAL CHIP	120	5%	1/16W
R932	1-216-864-11	METAL CHIP	0	5%	1/16W
R937	1-216-864-11	METAL CHIP	0	5%	1/16W
R940	1-216-864-11	METAL CHIP	0	5%	1/16W
R946	1-216-864-11	METAL CHIP	0	5%	1/16W
R947	1-216-864-11	METAL CHIP	0	5%	1/16W
R948	1-216-864-11	METAL CHIP	0	5%	1/16W
R949	1-216-864-11	METAL CHIP	0	5%	1/16W
R950	1-216-864-11	METAL CHIP	0	5%	1/16W
R951	1-216-864-11	METAL CHIP	0	5%	1/16W
R953	1-216-836-11	METAL CHIP	18K	5%	1/16W
R954	1-216-864-11	METAL CHIP	0	5%	1/16W
R957	1-216-864-11	METAL CHIP	0	5%	1/16W
R961	1-216-805-11	METAL CHIP	47	5%	1/16W
R962	1-216-805-11	METAL CHIP	47	5%	1/16W
R963	1-216-805-11	METAL CHIP	47	5%	1/16W
R971	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R972	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R973	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R974	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R975	1-216-840-11	METAL CHIP	39K	5%	1/16W
		< SWITCH >			
S971	1-771-039-11	SWITCH, PUSH (PANEL UNREV)			
		< TRANSFORMER >			
⚠T901	1-433-452-11	TRANSFORMER, INVERTER			

	A-7073-749-A	PK-45 BOARD, COMPLETE *********************			
					(Ref.No.:2,000 Series)
		< BATTERY HOLDER >			
BH701	1-550-104-32	HOLDER, BATTERY			
		< CAPACITOR >			
C601	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C602	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C603	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C604	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C605	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C606	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C801	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C802	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C803	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C804	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C805	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C806	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C807	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C808	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C809	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PK-45

Ref. No.	Part No.	Description			Remarks
C810	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C811	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C812	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C813	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C814	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C815	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C816	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C841	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C842	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C843	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C844	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C845	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C846	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C847	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C848	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C849	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C850	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C852	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C854	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C857	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
		< CONNECTOR >			
CN601	1-764-526-11	CONNECTOR, FFC/FPC 18P			
* CN602	1-750-075-11	CONNECTOR, FFC/FPC 10P			
CN603	1-785-482-41	CONNECTOR, BOARD TO BOARD 70P			
CN701	1-779-335-21	CONNECTOR, FFC/FPC 22P			
CN702	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P			
CN941	1-691-392-21	CONNECTOR, FFC/FPC 28P			
		< DIODE >			
D701	8-719-061-82	DIODE TLSU1002(TPX1,SONY)			
D702	8-719-061-81	DIODE TLYU1002(TPX1,SONY)			
D715	8-719-064-05	DIODE TLGU1002(TPX1,SONY)			
D842	8-713-102-80	DIODE 1T369-01-T8A			
		< IC >			
IC601	8-759-535-05	IC BH9530KS2			
IC801	8-759-530-19	IC MB40D001PFV-G-BND-ER			
IC802	8-759-539-27	IC IR3Y37A4			
IC841	8-759-523-03	IC TC74HC4066AFT(EL)			
IC842	8-759-530-20	IC CM7017L3-T4			
IC843	8-759-327-01	IC NJM062V(TE2)			
		< COIL >			
L601	1-414-394-11	INDUCTOR 2.2uH			
L801	1-414-078-11	INDUCTOR 10uH			
L802	1-414-757-11	INDUCTOR 100uH			
L841	1-414-754-11	INDUCTOR 10uH			
L842	1-414-754-11	INDUCTOR 10uH			
L843	1-412-951-11	INDUCTOR 10uH			
L844	1-414-754-11	INDUCTOR 10uH			
L845	1-412-955-11	INDUCTOR 22uH			
		< TRANSISTOR >			
Q841	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q842	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
Q843	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO			
Q844	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R601	1-216-033-00	METAL CHIP	220	5%	1/10W
R602	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R603	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R604	1-216-845-11	METAL CHIP	100K	5%	1/16W
R605	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R606	1-218-707-11	RES,CHIP	4.3K	5%	1/16W
R607	1-218-707-11	RES,CHIP	4.3K	5%	1/16W
R608	1-216-864-11	METAL CHIP	0	5%	1/16W
R610	1-216-864-11	METAL CHIP	0	5%	1/16W
R612	1-218-851-11	RES,CHIP	1.5K	0.50%	1/16W
R613	1-218-869-11	RES,CHIP	8.2K	0.50%	1/16W
R614	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R615	1-218-859-11	RES,CHIP	3.3K	0.50%	1/16W
R618	1-218-887-11	RES,CHIP	47K	0.50%	1/16W
R619	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W
R620	1-216-821-11	METAL CHIP	1K	5%	1/16W
R621	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
R622	1-218-875-11	RES,CHIP	15K	0.50%	1/16W
R623	1-218-292-11	RES,CHIP	20K	5%	1/16W
R624	1-216-817-11	METAL CHIP	470	5%	1/16W
R625	1-216-833-11	METAL CHIP	10K	5%	1/16W
R626	1-216-835-11	METAL CHIP	15K	5%	1/16W
R627	1-216-833-11	METAL CHIP	10K	5%	1/16W
R628	1-216-835-11	METAL CHIP	15K	5%	1/16W
R629	1-216-835-11	METAL CHIP	15K	5%	1/16W
R630	1-216-833-11	METAL CHIP	10K	5%	1/16W
R631	1-216-857-11	METAL CHIP	1M	5%	1/16W
R632	1-216-833-11	METAL CHIP	10K	5%	1/16W
R635	1-216-864-11	METAL CHIP	0	5%	1/16W
R701	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R702	1-216-819-11	METAL CHIP	680	5%	1/16W
R703	1-216-833-11	METAL CHIP	10K	5%	1/16W
R704	1-216-841-11	METAL CHIP	47K	5%	1/16W
R705	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R706	1-216-819-11	METAL CHIP	680	5%	1/16W
R707	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R708	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R709	1-216-819-11	METAL CHIP	680	5%	1/16W
R710	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R711	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R712	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R713	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R714	1-216-864-11	METAL CHIP	0	5%	1/16W
R802	1-216-864-11	METAL CHIP	0	5%	1/16W
R804	1-216-864-11	METAL CHIP	0	5%	1/16W
R806	1-216-837-11	METAL CHIP	22K	5%	1/16W
R807	1-216-834-11	METAL CHIP	12K	5%	1/16W
R808	1-216-864-11	METAL CHIP	0	5%	1/16W
R810	1-216-841-11	METAL CHIP	47K	5%	1/16W
R811	1-216-835-11	METAL CHIP	15K	5%	1/16W
R812	1-216-839-11	METAL CHIP	33K	5%	1/16W
R814	1-216-864-11	METAL CHIP	0	5%	1/16W
R815	1-216-834-11	METAL CHIP	12K	5%	1/16W
R816	1-216-840-11	METAL CHIP	39K	5%	1/16W
R817	1-216-848-11	METAL CHIP	180K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R818	1-216-833-11	METAL CHIP	10K	5%	1/16W
R819	1-216-845-11	METAL CHIP	100K	5%	1/16W
R820	1-216-805-11	METAL CHIP	47	5%	1/16W
R821	1-216-805-11	METAL CHIP	47	5%	1/16W
R822	1-216-805-11	METAL CHIP	47	5%	1/16W
R841	1-216-864-11	METAL CHIP	0	5%	1/16W
R842	1-216-864-11	METAL CHIP	0	5%	1/16W
R845	1-216-841-11	METAL CHIP	47K	5%	1/16W
R846	1-216-841-11	METAL CHIP	47K	5%	1/16W
R847	1-216-864-11	METAL CHIP	0	5%	1/16W
R849	1-216-864-11	METAL CHIP	0	5%	1/16W
R851	1-216-842-11	METAL CHIP	56K	5%	1/16W
R853	1-216-846-11	METAL CHIP	120K	5%	1/16W
R854	1-216-855-11	METAL CHIP	680K	5%	1/16W
R856	1-216-846-11	METAL CHIP	120K	5%	1/16W
R857	1-216-833-11	METAL CHIP	10K	5%	1/16W
R859	1-216-864-11	METAL CHIP	0	5%	1/16W
R861	1-216-857-11	METAL CHIP	1M	5%	1/16W
R862	1-216-837-11	METAL CHIP	22K	5%	1/16W
R863	1-216-843-11	METAL CHIP	68K	5%	1/16W
R864	1-218-893-11	RES,CHIP	82K	0.50%	1/16W
R865	1-216-843-11	METAL CHIP	68K	5%	1/16W
R866	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R867	1-216-864-11	METAL CHIP	0	5%	1/16W
R868	1-218-893-11	RES,CHIP	82K	0.50%	1/16W
R869	1-216-841-11	METAL CHIP	47K	5%	1/16W
R870	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R872	1-216-845-11	METAL CHIP	100K	5%	1/16W
R873	1-216-839-11	METAL CHIP	33K	5%	1/16W
R875	1-216-845-11	METAL CHIP	100K	5%	1/16W
R876	1-216-845-11	METAL CHIP	100K	5%	1/16W
R877	1-216-864-11	METAL CHIP	0	5%	1/16W
R878	1-216-864-11	METAL CHIP	0	5%	1/16W
R879	1-216-864-11	METAL CHIP	0	5%	1/16W
R880	1-216-864-11	METAL CHIP	0	5%	1/16W
R881	1-216-845-11	METAL CHIP	100K	5%	1/16W
R882	1-216-839-11	METAL CHIP	33K	5%	1/16W
R883	1-216-864-11	METAL CHIP	0	5%	1/16W
R885	1-216-864-11	METAL CHIP	0	5%	1/16W
R887	1-216-864-11	METAL CHIP	0	5%	1/16W
R889	1-216-864-11	METAL CHIP	0	5%	1/16W
R891	1-216-864-11	METAL CHIP	0	5%	1/16W
		< SWITCH >			
S701	1-771-128-11	SWITCH, TACTILE (CONTROL)			
S702	1-572-688-11	SWITCH, PUSH (1 KEY)(PLAY/STILL/MOVIE)			
S703	1-771-106-11	SWITCH, TACTILE (FLASH)			
S704	1-771-106-11	SWITCH, TACTILE (DISPLAY)			
S705	1-771-106-11	SWITCH, TACTILE (SPOT METER)			
S708	1-572-688-11	SWITCH, PUSH (1 KEY)(PLAY/STILL/MOVIE)			
S709	1-572-288-21	SWITCH, PUSH (POWER)			
S710	1-762-741-11	SWITCH, SLIDE (FINDER/LCD)			
		< VIBRATOR >			
X601	1-760-496-21	VIBRATOR, LITHIUM NIOBATE (4MHz)			

Ref. No.	Part No.	Description			Remarks
	A-7073-748-A	RL-52 BOARD, COMPLETE			
		**********************			
					(Ref.No.:2,000 Series)
		< CONNECTOR >			
CN103	1-770-624-21	PIN, CONNECTOR 7P			
		< RESISTOR >			
R122	1-216-864-11	METAL CHIP	0	5%	1/16W
R123	1-216-864-11	METAL CHIP	0	5%	1/16W
R124	1-216-864-11	METAL CHIP	0	5%	1/16W
		< SWITCH >			
S101	1-771-184-11	SWITCH, TACTILE (SHUTTER)			

Ref. No.	Part No.	Description			Remarks
	A-7073-751-A	SE-78 BOARD, COMPLETE			
		**********************			
					(Ref.No.:1,000 Series)
		< CAPACITOR >			
C201	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C202	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C203	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C204	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C207	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C208	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C209	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C210	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C211	1-110-666-11	ELECT CHIP	22uF	20%	6.3V
C212	1-110-666-11	ELECT CHIP	22uF	20%	6.3V
C213	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C214	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C215	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C216	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
		< CONNECTOR >			
CN201	1-766-337-21	CONNECTOR, FFC/FPC 7P			
		< IC >			
IC201	8-759-489-19	IC uPC6756GR-8JG-E2			
		< COIL >			
L201	1-412-951-11	INDUCTOR 10uH			
		< RESISTOR >			
R201	1-216-837-11	METAL CHIP	22K	5%	1/16W
R202	1-216-837-11	METAL CHIP	22K	5%	1/16W
R203	1-216-837-11	METAL CHIP	22K	5%	1/16W
R204	1-216-837-11	METAL CHIP	22K	5%	1/16W
R205	1-216-864-11	METAL CHIP	0	5%	1/16W
R206	1-216-853-11	METAL CHIP	470K	5%	1/16W
R207	1-216-833-11	METAL CHIP	10K	5%	1/16W
R208	1-216-833-11	METAL CHIP	10K	5%	1/16W
R209	1-216-853-11	METAL CHIP	470K	5%	1/16W
R210	1-216-835-11	METAL CHIP	15K	5%	1/16W
R211	1-216-835-11	METAL CHIP	15K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
		< SENSOR >			
SE201	1-803-042-31	SENSOR, ANGULAR VELOCITY (PITCH)			
SE202	1-803-042-41	SENSOR, ANGULAR VELOCITY (YAW)			

Ref. No.	Part No.	Description			Remarks
	A-7073-754-A	VF-131 BOARD, COMPLETE			
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					(Ref.No.:10,000 Series)
		< CAPACITOR >			
C5001	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5002	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5003	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C5004	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5005	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5006	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5007	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C5008	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C5009	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C5010	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C5011	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5012	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C5013	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C5015	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5016	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C5017	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C5101	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5102	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5103	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C5104	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5105	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V
C5106	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C5108	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C5109	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5110	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5111	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5112	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C5113	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
C5114	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5115	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C5116	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5117	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C5118	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C5119	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C5120	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C5121	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5122	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C5123	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C5201	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5202	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C5203	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C5205	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5206	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C5207	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C5208	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C5209	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remarks
		< CONNECTOR >			
CN5001	1-784-420-11	CONNECTOR, FFC/FPC (ZIF) 21P			
CN5202	1-750-340-21	CONNECTOR, FFC/EPC (ZIF) 16P			
		< DIODE >			
D5101	8-719-043-70	DIODE MA6S121-(TX)			
D5102	8-713-102-80	DIODE 1T369-01-T8A			
D5201	8-719-056-49	DIODE 1SS370(TE85L)			
		< IC >			
IC5001	8-759-546-65	IC CXA8115AR-T4			
IC5002	8-759-364-05	IC M62376GP-65AD			
IC5101	8-759-097-75	IC MB3789PFV-G-BND-ER			
IC5102	8-752-392-33	IC CXD2458AR-T4			
IC5103	8-759-198-34	IC TA75S558F(TE85R)			
		< COIL >			
L5001	1-412-955-11	INDUCTOR CHIP 22uH			
L5002	1-414-771-91	INDUCTOR CHIP 10uH			
L5101	1-412-033-11	INDUCTOR CHIP 220uH			
L5102	1-412-959-11	INDUCTOR 47uH			
L5103	1-412-946-11	INDUCTOR 3.9uH			
L5201	1-412-031-11	INDUCTOR CHIP 47uH			
L5202	1-412-029-11	INDUCTOR CHIP 10uH			
		< FLUORECENT INDICATOR >			
⚠ND5201	1-517-414-51	FLUORESCENT TUBE (0.55 INCH)			
		< TRANSISTOR >			
Q5101	8-729-013-72	TRANSISTOR RN2105-TE85L			
Q5102	8-729-037-61	TRANSISTOR UN9113J-(K8).SO			
Q5103	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q5201	8-729-039-24	TRANSISTOR FX216-TL1			
		< RESISTOR >			
R5005	1-218-971-11	RES,CHIP	33K	5%	1/16W
R5008	1-218-969-11	RES,CHIP	22K	5%	1/16W
R5020	1-218-975-11	RES,CHIP	68K	5%	1/16W
R5021	1-218-971-11	RES,CHIP	33K	5%	1/16W
R5022	1-218-985-11	RES,CHIP	470K	5%	1/16W
R5023	1-218-972-11	RES,CHIP	39K	5%	1/16W
R5024	1-218-972-11	RES,CHIP	39K	5%	1/16W
R5025	1-218-975-11	RES,CHIP	68K	5%	1/16W
R5026	1-218-971-11	RES,CHIP	33K	5%	1/16W
R5030	1-218-941-11	RES,CHIP	100	5%	1/16W
R5031	1-218-941-11	RES,CHIP	100	5%	1/16W
R5035	1-218-941-11	RES,CHIP	100	5%	1/16W
R5040	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5041	1-218-967-11	RES,CHIP	15K	5%	1/16W
R5050	1-218-990-11	SHORT 0			
R5051	1-218-973-11	RES,CHIP	47K	5%	1/16W
R5052	1-218-972-11	RES,CHIP	39K	5%	1/16W
R5102	1-208-941-11	RES,CHIP	180K	0.50%	1/16W
R5103	1-218-975-11	RES,CHIP	68K	5%	1/16W
R5104	1-218-974-11	RES,CHIP	56K	5%	1/16W

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
R5105	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R5106	1-218-975-11	RES,CHIP	68K	5%	1/16W
R5107	1-218-970-11	RES,CHIP	27K	5%	1/16W
R5108	1-218-982-11	RES,CHIP	270K	5%	1/16W
R5109	1-218-973-11	RES,CHIP	47K	5%	1/16W
R5110	1-218-974-11	RES,CHIP	56K	5%	1/16W
R5111	1-218-965-11	RES,CHIP	10K	5%	1/16W
R5113	1-218-979-11	RES,CHIP	150K	5%	1/16W
R5114	1-218-954-11	RES,CHIP	1.2K	5%	1/16W
R5115	1-218-981-11	RES,CHIP	220K	5%	1/16W
R5116	1-218-969-11	RES,CHIP	22K	5%	1/16W
R5117	1-218-985-11	RES,CHIP	470K	5%	1/16W
R5118	1-218-983-11	RES,CHIP	330K	5%	1/16W
R5119	1-218-974-11	RES,CHIP	56K	5%	1/16W
R5120	1-218-989-11	RES,CHIP	1M	5%	1/16W
R5123	1-218-965-11	RES,CHIP	10K	5%	1/16W
R5125	1-218-971-11	RES,CHIP	33K	5%	1/16W
R5128	1-218-953-11	RES,CHIP	1K	5%	1/16W
R5201	1-216-839-11	METAL CHIP	33K	5%	1/16W
R5202	1-216-809-11	METAL CHIP	100	5%	1/16W
R5204	1-218-982-11	RES,CHIP	270K	5%	1/16W
R5205	1-218-971-11	RES,CHIP	33K	5%	1/16W
R5206	1-218-977-11	RES,CHIP	100K	5%	1/16W
R5207	1-218-973-11	RES,CHIP	47K	5%	1/16W
		< TRANSFORMER >			
⚠T5201	1-426-849-31	TRANSFORMER, INVERTER			

	A-7073-750-A	VP-49 BOARD, COMPLETE			
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					(Ref.No.:2,000 Series)
		< CAPACITOR >			
C231	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C232	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C233	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C234	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C235	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C236	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C237	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C238	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C239	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C240	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C241	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C248	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C249	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C250	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C251	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C252	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C253	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C254	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C255	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C257	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C258	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C259	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C261	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C262	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C263	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C264	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remarks
		< CONNECTOR >			
CN231	1-766-343-21	CONNECTOR, FFC/FPC 13P			
CN232	1-766-337-21	CONNECTOR, FFC/FPC 7P			
CN233	1-766-344-21	CONNECTOR, FFC/FPC 14P			
		< FERRITE BEAD >			
FB231	1-414-228-11	INDUCTOR CHIP 0UH			
		< IC >			
IC231	8-759-359-49	IC NJM3414AV(TE2)			
IC232	8-759-359-49	IC NJM3414AV(TE2)			
IC233	8-759-444-87	IC NJM324V(TE2)			
IC234	8-759-058-45	IC NJM3403AV(TE2)			
IC236	8-759-248-78	IC MB88102PFV-G-BND-ER			
IC237	8-752-901-66	IC CXP81120-047R-T6			
IC238	8-759-058-58	IC TC7S04FU(TE85R)			
IC239	8-759-031-84	IC TC7S04F(TE85R)			
IC240	8-759-031-84	IC TC7S04F(TE85R)			
		< COIL >			
L231	1-414-398-11	INDUCTOR 10uH			
L232	1-412-963-11	INDUCTOR 100uH			
L233	1-412-951-11	INDUCTOR 10uH			
L234	1-414-398-11	INDUCTOR 10uH			
L235	1-412-951-11	INDUCTOR 10uH			
		< TRANSISTOR >			
Q231	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX			
Q232	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q233	8-729-013-31	TRANSISTOR 2SA1588-OY-TE85L			
Q234	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX			
Q235	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q236	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
Q237	8-729-037-74	TRANSISTOR UN9213J-(K8).SO			
		< RESISTOR >			
R231	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
R232	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
R233	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
R234	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R235	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
R236	1-216-845-11	METAL CHIP	100K	5%	1/16W
R237	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R238	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R239	1-216-835-11	METAL CHIP	15K	5%	1/16W
R240	1-218-859-11	RES,CHIP	3.3K	0.50%	1/16W
R241	1-216-845-11	METAL CHIP	100K	5%	1/16W
R242	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R243	1-216-835-11	METAL CHIP	15K	5%	1/16W
R244	1-218-859-11	RES,CHIP	3.3K	0.50%	1/16W
R245	1-218-887-11	RES,CHIP	47K	0.50%	1/16W
R246	1-218-887-11	RES,CHIP	47K	0.50%	1/16W
R249	1-218-895-11	RES,CHIP	100K	0.50%	1/16W
R250	1-218-903-11	RES,CHIP	220K	0.50%	1/16W
R251	1-218-903-11	RES,CHIP	220K	0.50%	1/16W
R252	1-218-895-11	RES,CHIP	100K	0.50%	1/16W

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
R254	1-218-895-11	RES,CHIP	100K	0.50%	1/16W
R256	1-218-895-11	RES,CHIP	100K	0.50%	1/16W
R257	1-216-837-11	METAL CHIP	22K	5%	1/16W
R258	1-216-837-11	METAL CHIP	22K	5%	1/16W
R259	1-216-837-11	METAL CHIP	22K	5%	1/16W
R260	1-216-837-11	METAL CHIP	22K	5%	1/16W
R261	1-216-837-11	METAL CHIP	22K	5%	1/16W
R262	1-216-837-11	METAL CHIP	22K	5%	1/16W
R263	1-216-821-11	METAL CHIP	1K	5%	1/16W
R264	1-216-841-11	METAL CHIP	47K	5%	1/16W
R265	1-216-864-11	METAL CHIP	0	5%	1/16W
R266	1-216-821-11	METAL CHIP	1K	5%	1/16W
R267	1-216-821-11	METAL CHIP	1K	5%	1/16W
R268	1-216-833-11	METAL CHIP	10K	5%	1/16W
R269	1-216-841-11	METAL CHIP	47K	5%	1/16W
R270	1-216-864-11	METAL CHIP	0	5%	1/16W
R271	1-216-864-11	METAL CHIP	0	5%	1/16W
R273	1-216-864-11	METAL CHIP	0	5%	1/16W
R274	1-216-841-11	METAL CHIP	47K	5%	1/16W
R275	1-216-864-11	METAL CHIP	0	5%	1/16W
R276	1-216-864-11	METAL CHIP	0	5%	1/16W
R277	1-216-841-11	METAL CHIP	47K	5%	1/16W
R278	1-216-864-11	METAL CHIP	0	5%	1/16W
R279	1-216-857-11	METAL CHIP	1M	5%	1/16W
R280	1-216-814-11	METAL CHIP	270	5%	1/16W
R282	1-216-841-11	METAL CHIP	47K	5%	1/16W
R283	1-216-821-11	METAL CHIP	1K	5%	1/16W
R284	1-216-864-11	METAL CHIP	0	5%	1/16W
R286	1-216-864-11	METAL CHIP	0	5%	1/16W
R287	1-216-864-11	METAL CHIP	0	5%	1/16W
R290	1-216-864-11	METAL CHIP	0	5%	1/16W
R291	1-216-837-11	METAL CHIP	22K	5%	1/16W
		< VIBRATOR >			
X231	1-579-553-11	VIBRATOR (12MHz)			

MISCELLANEOUS
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Ref. No.	Part No.	Description	Remarks
4	1-959-175-11	HARNESS (RL-51)	
⚠9	1-418-067-11	FLASH UNIT (50110)	
60	1-671-875-11	FP-68 (VF-FC) FLEXIBLE BOARD	
62	1-959-176-11	HARNESS (MA-151)	
110	1-694-297-31	TERMINAL BOARD, BATTERY	
113	1-418-069-11	BLOCK, SW	
114	1-671-880-11	FP-73 (VP-FC) FLEXIBLE BOARD	
115	1-671-874-11	FP-67 (FC-CD) FLEXIBLE BOARD	
117	1-418-070-11	BLOCK, ZM	
119	1-418-068-11	BLOCK (50110), MF	
153	1-671-864-21	FP-65 FLEXIBLE BOARD	
158	1-759-679-11	DRIVE, FLOPPY DISK (3.5 INCH)	
177	1-671-876-21	FP-69 (PD-PK) FLEXIBLE BOARD	(Including S691)
180	1-958-571-11	HARNESS (SP-151)	
201	1-671-876-21	FP-69 (PD-PK) FLEXIBLE BOARD	(Including S691)
208	1-671-877-21	FP-70 (PANEL) FLEXIBLE BOARD	
253	1-671-878-11	FP-71 (CS-VP) FLEXIBLE BOARD	
254	1-671-880-11	FP-73 (VP-FC) FLEXIBLE BOARD	
255	1-671-879-11	FP-72 (SE-VP) FLEXIBLE BOARD	
258	1-671-874-11	FP-67 (FC-CD) FLEXIBLE BOARD	
262	3-709-461-01	VAP UNIT	
265	1-758-217-11	FILTER BLOCK, OPTICAL	
268	3-709-462-01	TUBE, MIRROR UNIT, MAIN	
IC401	A-7030-955-A	CCD BLOCK ASSY (CCD IMAGER)	
LCD901	1-803-184-21	INDICATOR MODULE, LIQUID CRYST	
LCD902	8-753-023-51	LCX027AK-1	
MIC901	1-542-312-11	MICROPHONE	
⚠ND901	1-517-817-11	TUBE, FLUORESCENT,COLD CATHODE	
SP901	1-529-174-11	SPEAKER (2.0 CM)	

ACCESSORIES
****

Ref. No.	Part No.	Description	Remarks
	1-569-007-11	ADAPTOR, CONVERSION 2P (JE)	
	1-569-008-21	ADAPTOR, CONVERSION 2P (E)	
⚠	1-696-819-11	CORD, POWER (2m)(AUS)	
⚠	1-769-322-11	CORD, POWER 2P (2m)(JE)	
⚠	1-769-608-11	CORD, POWER (2m)(AEP,UK,E,HK)	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK,HK)	
⚠	1-775-549-21	CORD, POWER (2m)(US,CND)	
⚠	1-782-476-11	CORD, POWER (2m)(CN)	
	3-864-060-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH,CHINESE,SPANISH)	
	3-864-060-21	MANUAL, INSTRUCTION (ITALIAN,DUTCH,PORTUGUESE,RUSSIAN)(AEP,E,HK,CN)	
	3-864-060-31	MANUAL, INSTRUCTION (CHINESE,KOREAN,ARABIC)(E,JE,HK,CN)	
	3-864-060-41	MANUAL, INSTRUCTION (SWEDISH)(AEP)	
	3-865-183-11	MANUAL, INSTRUCTION (ENGLISH/SPANISH)	
	3-865-183-21	MANUAL, INSTRUCTION (GERMAN/FRENCH) (CND,AEP,JE)	
	3-865-183-31	MANUAL, INSTRUCTION (ITALIAN/DUTCH) (AEP)	
	3-865-183-41	MANUAL, INSTRUCTION (PORTUGUESE/RUSSIAN)(AEP,E,HK,CN)	
	3-865-183-51	MANUAL, INSTRUCTION (TRADITIONAL/SIMPLIFIED CHINESE)(E,JE,HK,CN)	
	3-865-183-61	MANUAL, INSTRUCTION (ARABIC/KOREAN) (E,JE,HK,CN)	
	3-865-183-71	MANUAL, INSTRUCTION (SWEDISH)(AEP)	
	3-987-015-01	BELT (S), SHOULDER	
	A-7093-731-A	NP-F330 BATTERY PACK (US,CND)	
	A-7093-732-A	NP-F330 BATTERY PACK (EXCEPT US,CND)	
	A-7029-111-A	BC-V615 AC POWER ADAPTER	

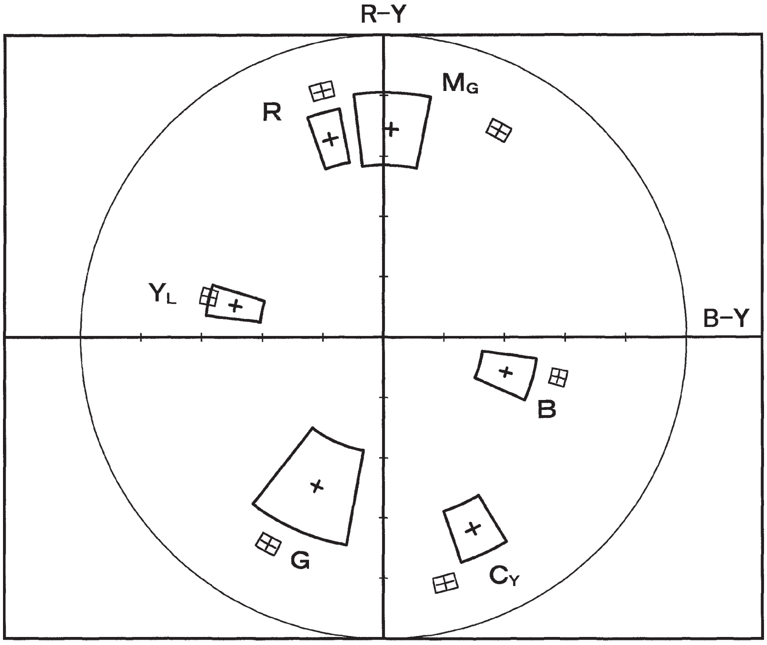
Be sure to read “Note on the CCD imager replacement” on page 4-8 when changing the CCD Imager.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

〈FOR CAMERA COLOR REPRODUCTION ADJUSTMENT〉

Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts reference sheets with a clear sheet for use.

⊞ : FOR PREPARATION
⊞ : FOR ADJUSTMENT

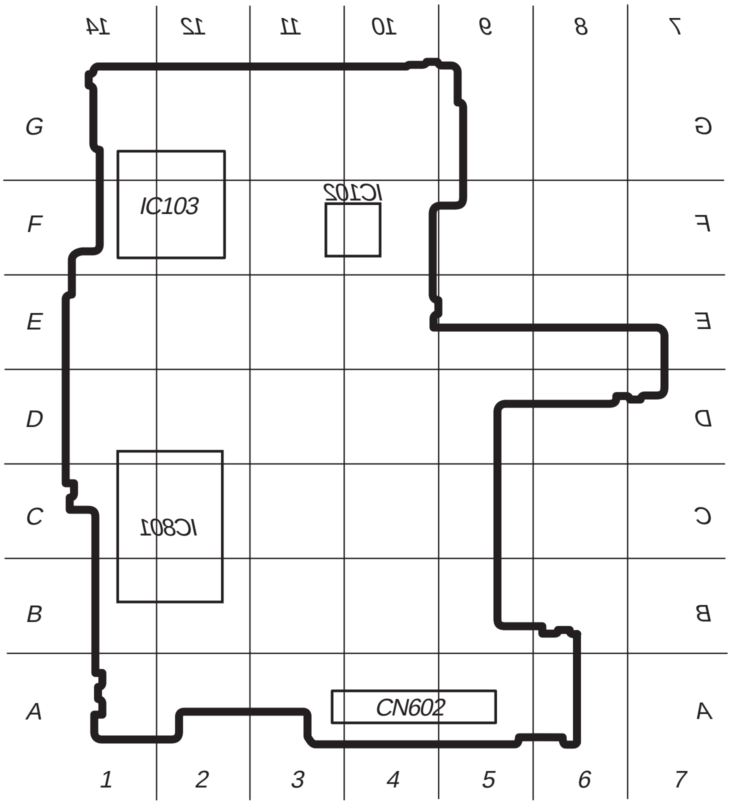


MVC-FD91

〈PARTS REFERENCE SHEET〉

You can find the parts position of location of mount locations applying to FC-67 board of a set.

FC-67 MVC-FD91 SIDE A



SIDE B MVC-FD91 **FC-67**

9-974-119-11

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Personal A&V Products Company

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